SCIENTIFIC TEMPERANCE WORK

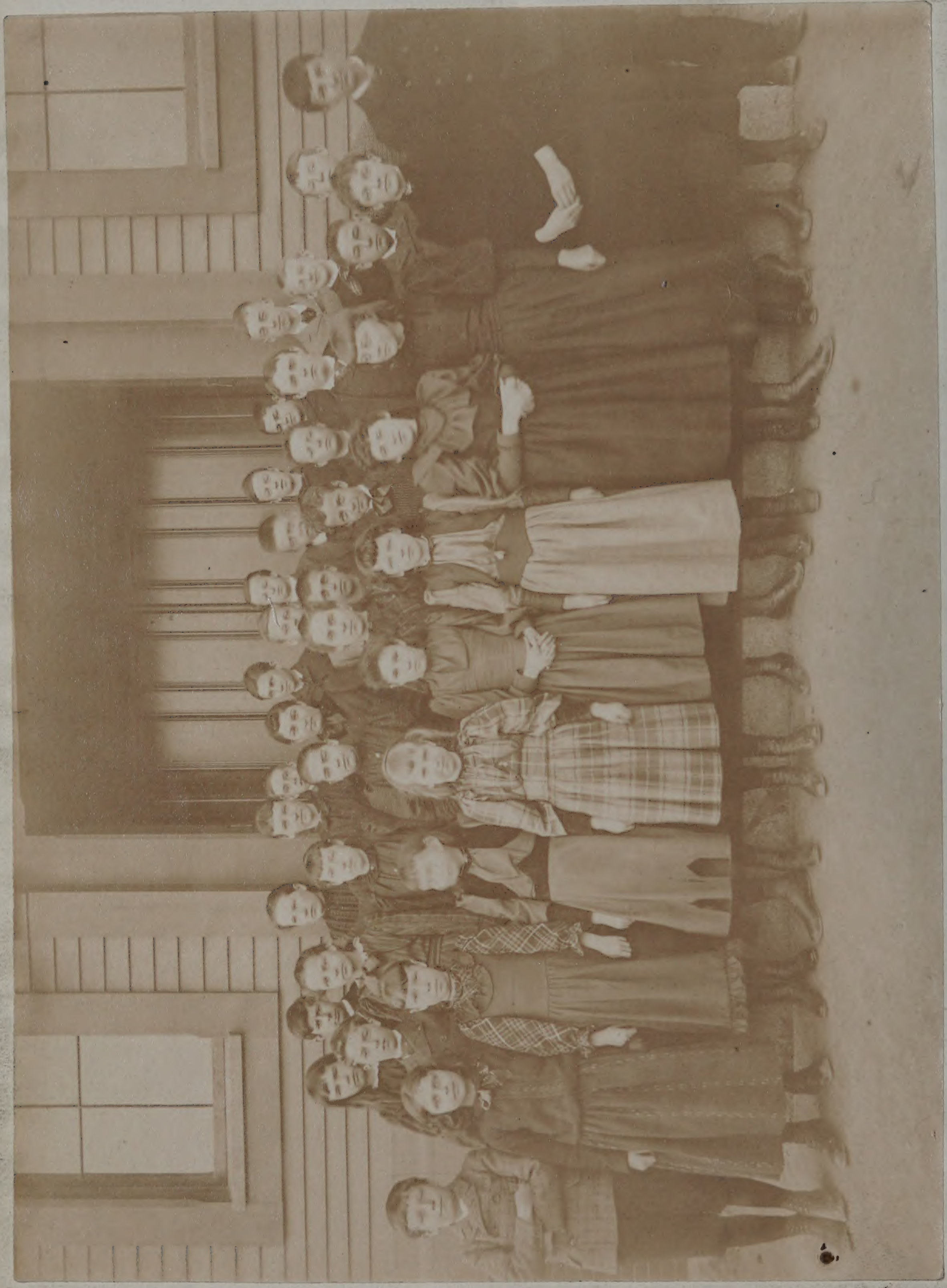
GREW SCHOOL, HYDE PARK, MASS.

SEVENTH YEAR PUPILS

HYDE PARK
HISTORICAL
SOCIETY.

GIFT OF

ADDED



[illegible] [illegible].

[illegible]

Officers.

Vice Presidents

Sept [illegible]

[illegible] Committee:

[illegible] [illegible] [illegible] [illegible], Esq.
[illegible] [illegible]

Members:

[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
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[illegible] [illegible]

Seventh Year of Study.

The Circulation.

The circulation of the blood is the process by which the blood is distributed through all parts of the body.

The two circulations are the pulmonary or lesser, and the systemic or greater. The pulmonary circulation carries the blood from the right side of the heart through the lungs to be purified, and is returned as pure blood to the left side of the heart. The systemic circulation carries the blood from from the left side of the heart to all parts of the system, and then returns as impure blood.

The organs of circulation are the heart, lungs, arteries,

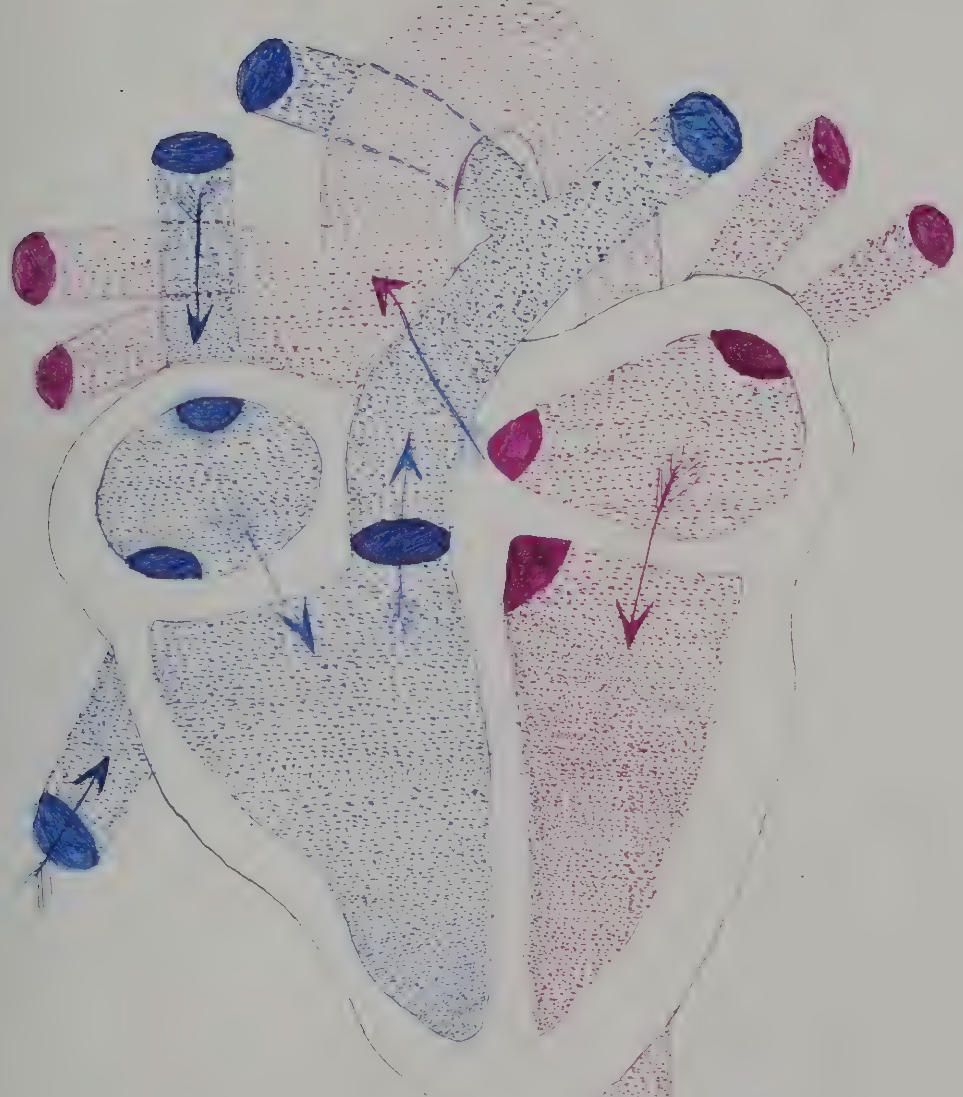
capillaries and veins.

The blood is a liquid that flows to all to all parts of the body. It has three uses, it nourishes, cleans, and warms the body. The blood is divided into two parts. The first part is a thin watery liquid, heavier than water, and thicker. This is called plasma. In the other part of the blood there are millions of little blood disks which we could not live without called corpuscles.

The heart is situated in the center of the chest between the lungs, and a little front to the left, with the point extending downward. The heart is five inches long and three and one half inches wide

and two and one half inches thick. It is divided into four chambers the right and left auricle, and right and left ventricle.

The blood is traced from the right auricle and then it passes to the right ventricle, from there to the pulmonary artery to the lungs, and from there to the capillaries into the lungs to be purified. It is then returned through the pulmonary veins to the left auricle, passes on through the left ventricle, and then it passes on to the aorta which distributes the blood to all parts of the body. From there, it passes on to the capillaries where it becomes impure



and others through the veins to the right auricle.

The lungs are the chief organs for breathing. These They are situated in the cavity of the chest around the heart. The lungs are in the shape of a leaf, growing larger as they get near the top. The lungs secure oxygen from the air and they give out carbonic acid. They are composed chiefly of two parts, (1) Tubes for the blood and (2) air passages.

If a person uses too much tobacco, it weakens the heart and in many cases, it causes heart disease, that is the terrible effect of tobacco on the heart.

Alcoholic drinks [illegible] the blood of [illegible] [illegible] coagulation. The blood flows very frequently and then it becomes so thin and watery that a man would almost bleed to death if he should cut himself. Alcohol will make the heart beat faster and it becomes clogged with fat. Alcohol weakens the walls and that causes them to distend and sometimes burst. That is because the blood flows to fast. It flushes the face and nose and makes them red. This is from the enlargement of the capillaries.

Gertrude Stockwell.

Seventh Year of Study

The Circulation.

The circulation of the blood is the process by which the blood is distributed through all parts of the body. There are two circulations; the pulmonary or lesser, and systemic or greater. The pulmonary circulation is the impure blood passing from the right side of the heart to the lungs to be purified and then sent to all parts of the body. The systemic circulation is the blood going all over the system and returning to the left side of the heart loaded with impurities. The organs of circulation are the heart lungs. arteries. veins and capillaries.

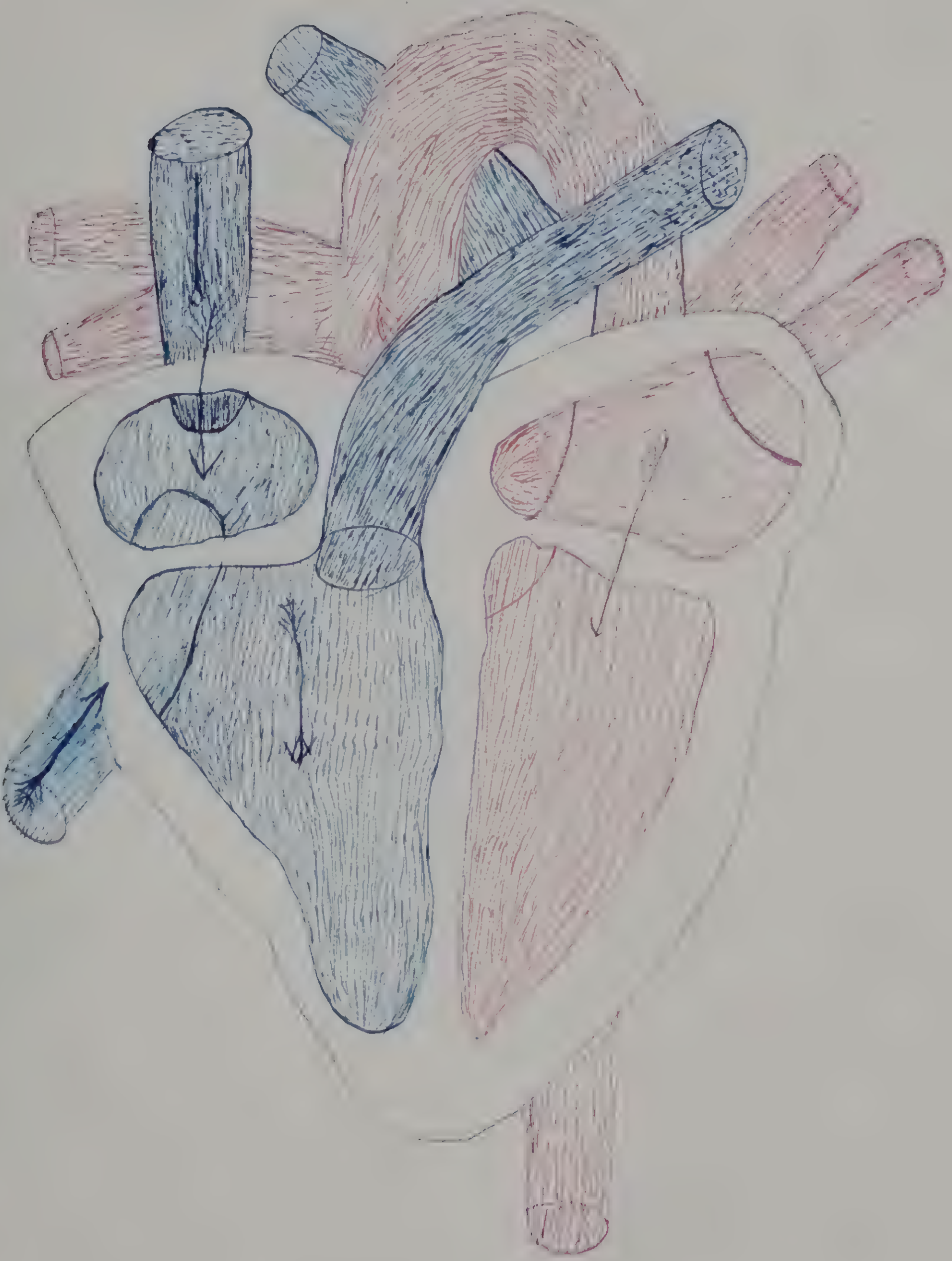
The blood is a thin watery liquid in which float millions of little blood disks, and as most of these disks are red. the blood looks red. These disks are very, very small and in a drop of blood that would hang on the end of a needle there are millions of these disks. The blood cleans, feeds, and warms the body. There are two parts to the blood: the liquid or plasma, and the corpuscles.

The heart is the centre of circulation. It is a strong muscular bag and is shaped somewhat like a pear. It is situated on the left side of the chest and the apex is downward. It is about the size of

a closed fist, and is about five inches long and three inches wide.

The heart is divided into four chambers, the right and left auricle and the right and left ventricle. The blood from the left side of the heart can not get into the right side.

The blood enters the right auricle of the heart; then it passes into the right ventricle is forced through the pulmonary artery to the lungs; then goes through the capillaries of the lungs to be purified; then returns to the heart through pulmonary veins; enters the left auricle, passes into the left ventricle; then



is forced into the aorta and is distributed through all parts of the body and comes back through the veins to the right auricle.

An artery is a white elastic tube that carries pure blood over the body and they are placed deep in the flesh for protection. A capillary is a small artery. A vein is a tube which carries impure blood to the lungs. these are under the surface.

The lungs are the organs of breathing. They are situated in the chest around the heart. They are full of little air cells and are shaped something like a leaf.

To preserve the heart.

and causes many heart troubles. It is very often the cause of heart failure.

Alcohol makes the blood very thin and so when a person is but very slightly wounded he is apt to bleed to death because the blood will not readily clot at the edge of the wound. Alcohol shrivels the blood corpuscles and it makes the heart beat faster.

Alcohol robs the heart with extra beats and the heart gets a little rest between each beat; but when alcohol is taken into the system, the rest is shortened.

Alcohol makes more blood go into the blood-vessels be-

that some times they burst.
This is running over in the
[illegible] age when children [illegible]
come home at a wandering [illegible]

Carrie O. Thompson.

Seventh Year of Study

The Circulation

The circulation of the blood is the process by which the blood is distributed through all parts of the body.

The two circulations are the pulmonary or lesser, and the systemic or great. The pulmonary or lesser circulation is the process of the blood going from the right side of the heart to the lungs and from there to the left side of the heart.

The systemic or great circulation is the process of the blood going from the left side of the heart all over the body and back to the right side of the heart

The organs of circulation are the heart, lungs, arteries, veins and capillaries.

The blood is a thin liquid flowing through all parts of the body. There are two parts; the watery part and corpuscles which are mostly red and make the blood look red.

These corpuscles are so small they can hardly be seen without a microscope.

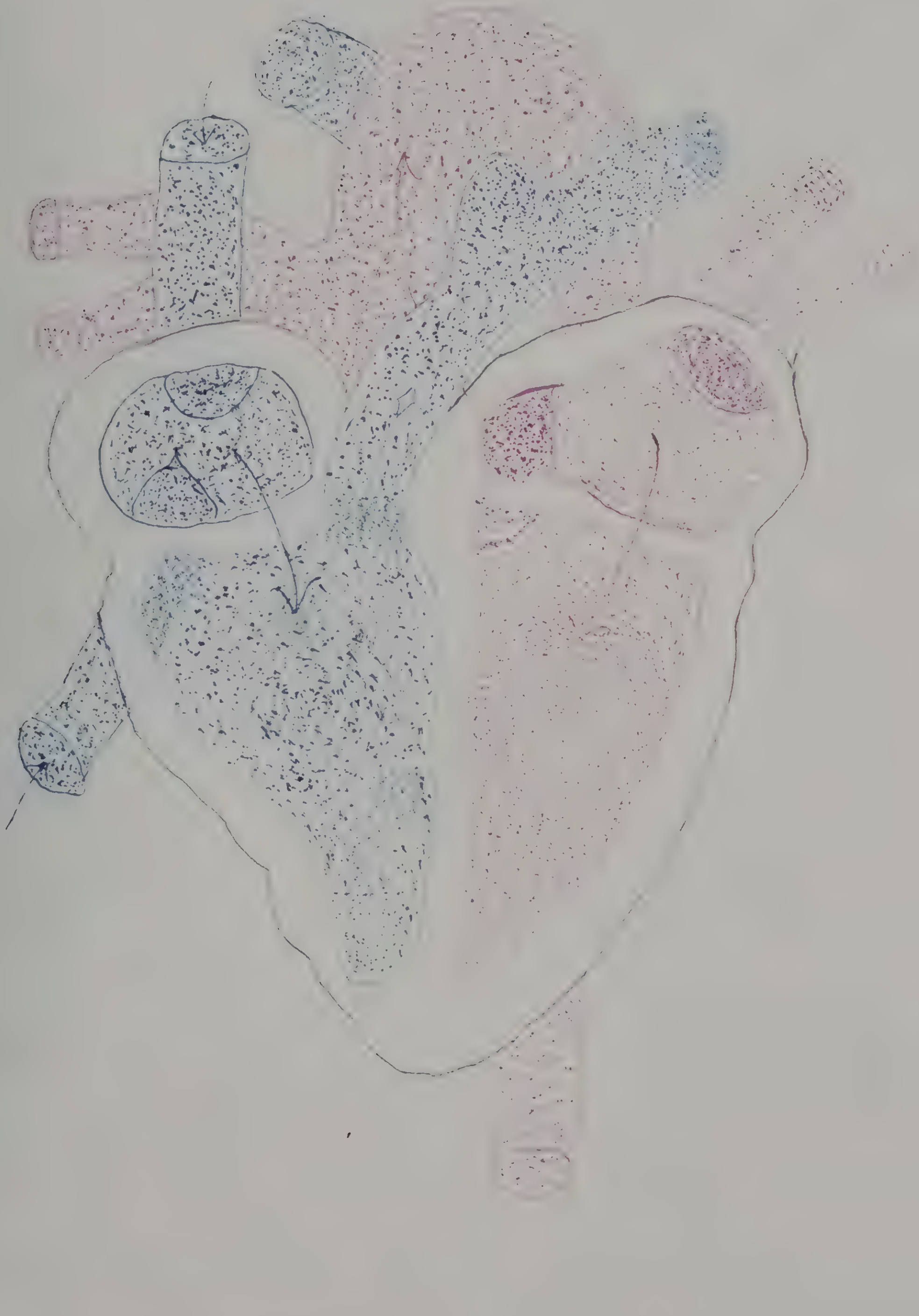
The heart is a large muscular bag situated in the center of the chest, between the lungs. It is shaped like a heart, with the point inclined a little to the left. It is divided into four parts; the right and left ventrical and the right and left auricle. The right ventrical and auricle are connected by small valves, but the right auricle and left auricle or the right ventrical and left ventricle, are not connected in any way. The left side of the heart contains pure blood, and the right side contains impure blood.

The blood from all parts of the body is pumped into the right side of the heart through two veins, one at the upper and one at the side. From the right auricle, it is pumped into the right ventricle, and from there, it is pumped into the pulmonary artery, the only artery in the body that carries

impure blood. This artery carries it into the lungs which are situated in the center of the chest above the heart. They are shaped like a leaf. They are composed of air vessels and blood vessels. The blood is purified in the lungs by the oxygen which we breathe. The pulmonary artery divides into small veins and capillaries; veins are small tubes which return blood into the heart.

The blood then comes from the lungs through veins into the left auricle, and from there into the left ventricle, and then into the aorta, the largest artery in the body. From there, it is sent into smaller arteries to all parts, giving nourishment to the different parts, and discharging into veins which take impure matter from different parts and carry it back to the right auricle.

Nutrition is the process by which the nourishment is taken from the [illegible] and



capillaries, and the waste returned. They are of tissue like covering, which is porous, and through these pores, the body can take in nourishment.

It is hard to realize that the heart does so much work. We think an engine does a great deal of work, but it is nothing compared with heart. It is wonderful how the beating of the heart sends the blood all over the body. Men have made wonderful things, but never anything so wonderful as that.

Alcohol is very injurious to the body. It makes the blood so thin and watery that it will not clot. It shrivels up the corpuscles by extracting the water from them so they cannot carry enough oxygen from the lungs to the different parts. It also enlarges the arterial tissues, letting in too much blood, and it is often seen in the flushed face and red nose of a drinking man. Alcohol also injures the work of the heart by making it beat too fast but not as strong as before it was taken

It often causes fat around the heart and the heart does not get as much rest as when alcohol is not taken.

Tobacco effects the heart in much the same way as alcohol, and it causes palpitation and heart disease.

Mabel Johnson

Seventh Year of Study

The Circulation.

[illegible] circulation of the blood is the [illegible] by which the blood is [illegible]

[illegible]

[illegible] blood starts from the [illegible] is called the pulmonary [illegible]

[illegible] and goes to all [illegible] taking away the [illegible] systemic [illegible]

[illegible] arteries, veins and capillaries.

[illegible]

blood-disks. As most of these are [illegible]

[illegible], the blood looks red. In one

[illegible] of blood there are millions of

[illegible] numerous. [illegible]

[illegible] to every part of the body the

nutriment it needs. The blood

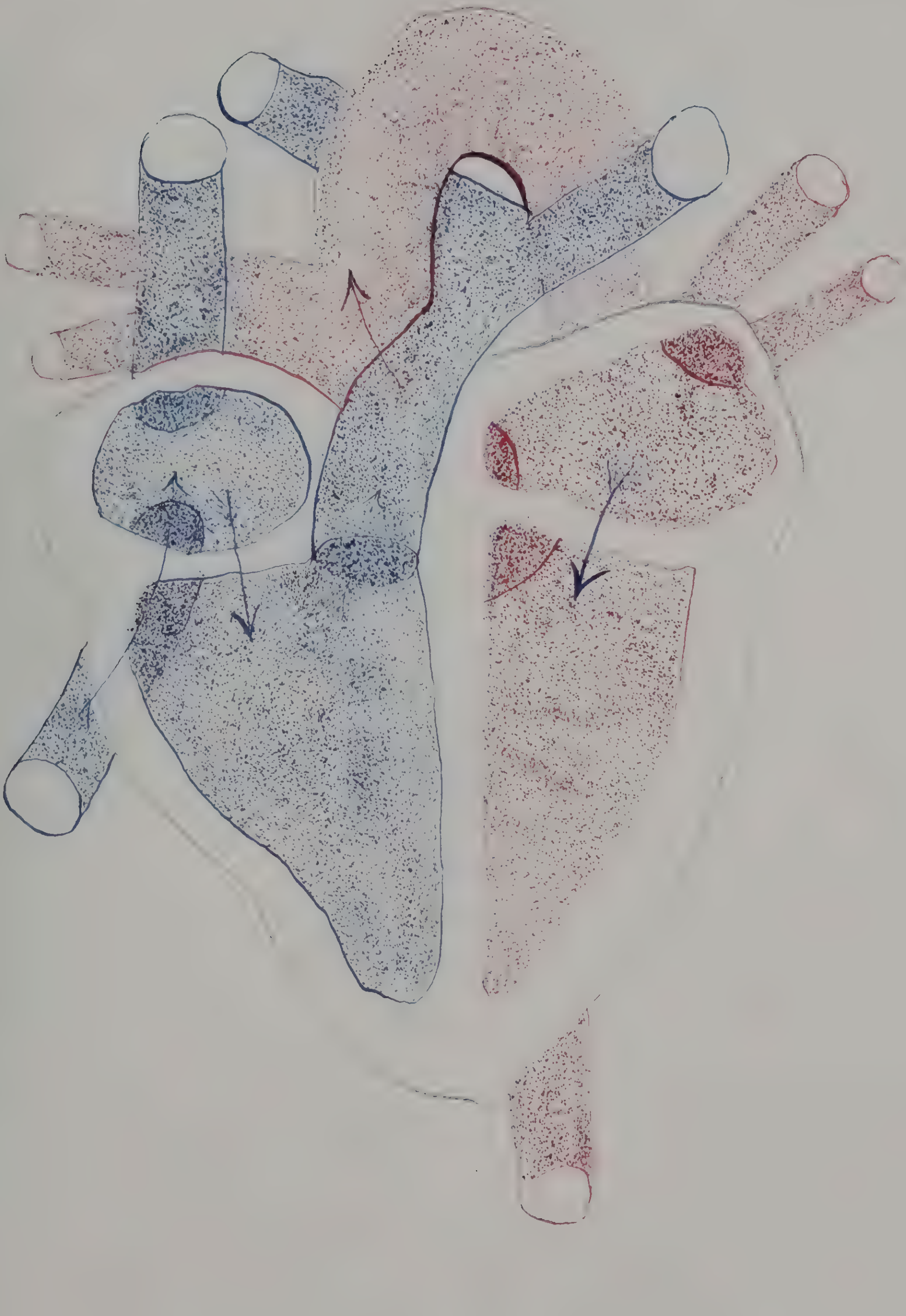
[illegible] the body and

[illegible]

[illegible] a little forward. [illegible]

[illegible] as a [illegible] shaped [illegible]

[illegible] diamonds. It is about six



[illegible] heart [illegible]

The heart is the center of circulation. It contracts and sends the [illegible]

[illegible] always when [illegible]

in the heart. The arteries [illegible]

Seventh Year of Study

The Circulation

The circulation of the blood is the process by which the blood is distributed through all parts of the body.

There are two kinds of circulation, the pulmonary or lesser and systemic or greater circulation. The pulmonary circulation takes the blood from the heart to the lungs and back again, while the systemic takes the pure blood to all parts of the body and back to the heart as impure blood.

The organs of circulation are the heart, lungs, arteries, veins and capillaries.

The blood is a thin watery liquid. It contains two parts, the thin watery liquid and the hard

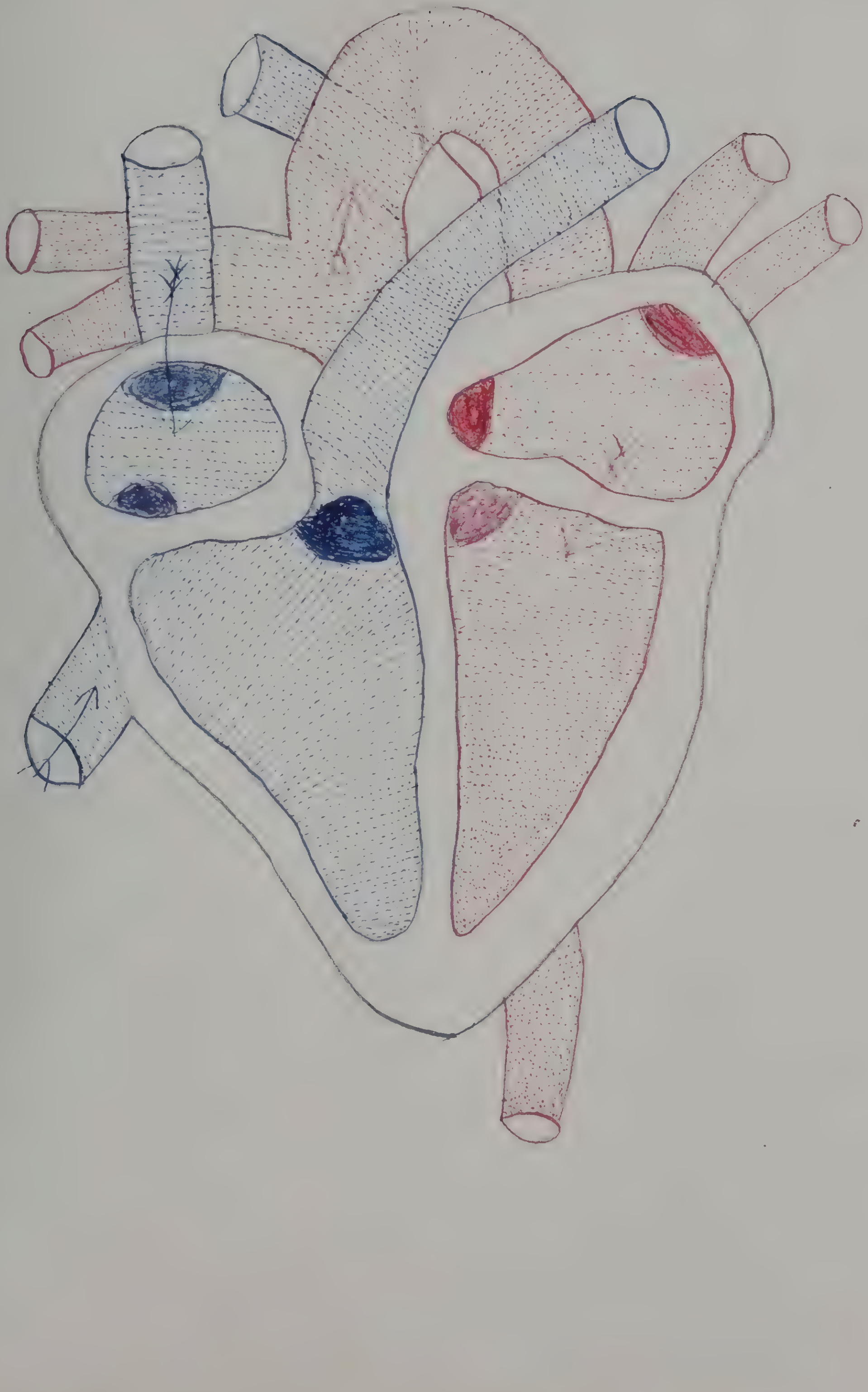
sides of the body warmth and nourishment to the body besides cleansing it.

The heart is the center of circulation. It is situated on the left, and between the lungs, with the apex downward. It is five inches broad, three and a half inches long and two inches at the apex. The heart is divided into four parts, the right and left auricles and right and left ventricles. When the blood leaves the right ventricle it is forced by the heart into the large artery called the aorta, and then it branches off into smaller arteries, to supply the [illegible]; and so to all parts of the body.

The pulsation of arteries the [illegible] by the [illegible] arteries compress It beats from the heart [illegible]

carries impure blood to the lungs to be purified. When it gets to the lungs, it has two entrances which lead to the right and left lungs. After it gets into the lungs there are very small branches leading from the pulmonary artery to the air cells which the blood gets purified. The lungs are of a leaf shape and have many small air cells. The walls are so thin that the air can get through them, at the blood and the oxygen that we breath purifies the blood and it goes back to the heart pure.

The heart is a very hard worker. Every time the heart beats it throws out two ounces of blood. It would amount to about seven tons in twenty-four hours.



There is about ten gallons of
blood goes through the heart in less
than three minutes. The heart
beats more than a hundred
thousands times a day.

"Tobacco has a harmful effect
on the heart. It makes it beat a
great deal faster than what it
ought. A great many of heart
diseases are caused by the using
of tobacco especially "smokers
heart."

Alcohol makes the blood very
thin so if a man who has been
a habital drinker and should
cut an artery, he or he is
great danger of bleeding to
death. It also makes the heart
beat faster so it sends too
much blood to different places
in the body for [illegible]

[illegible]
[illegible]
[illegible]
[illegible]
[illegible] [illegible] yrs

Isabel [illegible]

Seventh Year of Study.

The Circulation.

Circulation is the process by which the blood is distributed throughout all parts of the body. There are two kinds of circulation (pulmonary which carries the blood to the lungs, and the systemic which carries the body and back to the heart again.

The organs of circulation are the veins, arteries, lungs, capillaries and heart.

The blood is a thin watery liquid. It is red, but it is red because of the millions of little red blood-disks flowing through it.

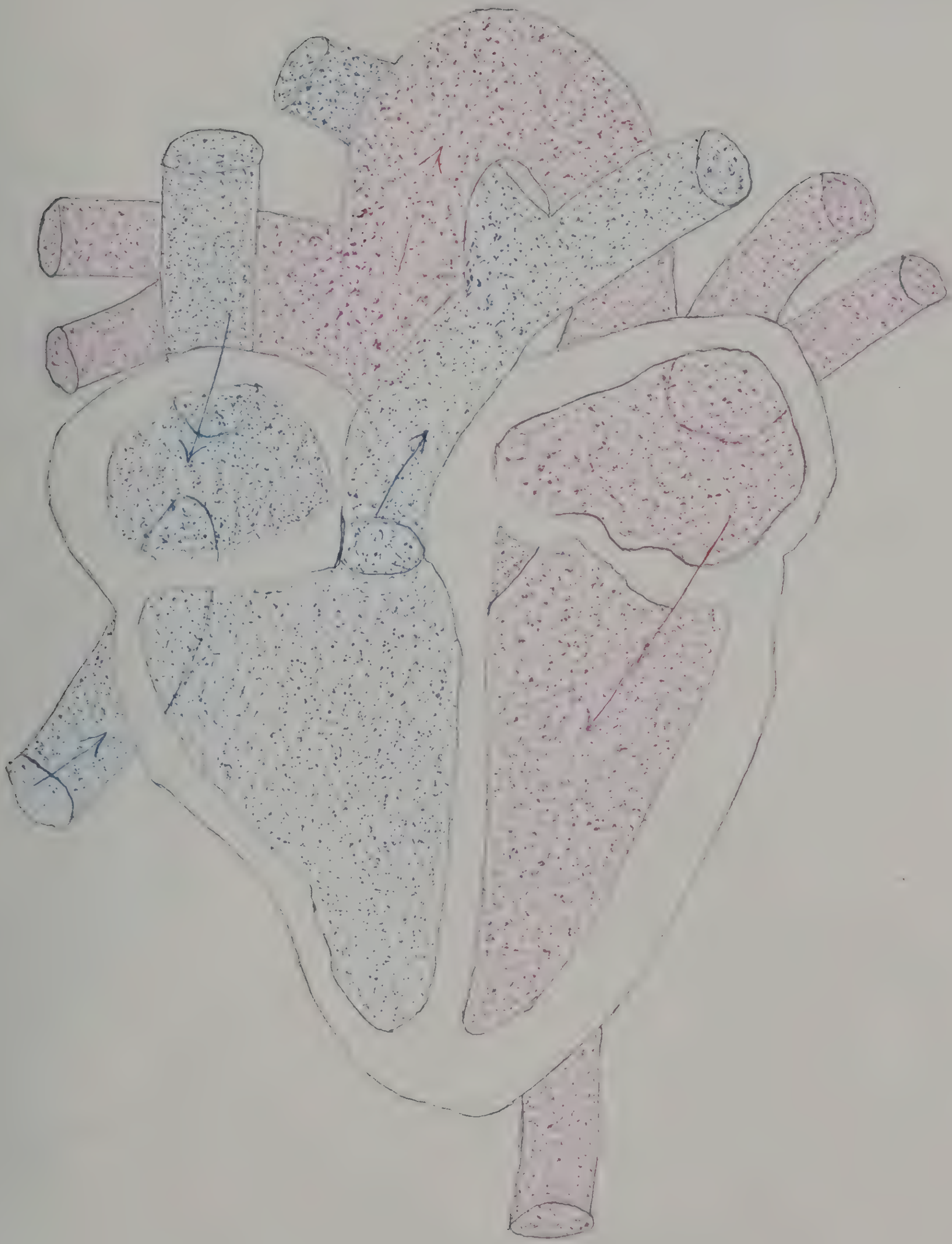
The heart is the centre of circulation. It is the shape of a pear. It is divided into four parts, the right and left ventricle and the right

and left auricle.

The heart has the most work to do. It is about five in long and three in wide, and two and one half inches thick.

The circulation of the blood is really more than we can imagine.

The blood starts from the right auricle which is one of the chambers of the heart from there to the right ventricle. It then flows through the pulmonary arteries which divide the lungs into right and left lungs; the impurities are taken out and it is purified and flows through the capillaries. These are small veins about the size of the hairs in the head. They carry the waste matter from the blood. It then flows to the lungs and gets purified and returns to the heart, the process of circulation



it next enters the left ventricle the large chamber of the heart back to the veins. Veins are carry the impure blood. They are larger than the arteries. We can easily distinguish the difference by looking at the color; the veins are dark while the arteries are of a red color. It then flows back to the right auricle and is purified

The lungs are the organs of breathing. The passes in and out of the lungs about eighteen times a minute. Healthy exercise causes us to breathe more rapidly. They are near the chest and surround the heart. There are two sets of tubes. First for the air and second for the blood

Nutrition is the change between the capillaries; carrying away the waste matter and returning

good material.

I do not suppose we can hardly imagine the great amount of work the heart has to do. It is the great organ of circulation. So we must think of the heart as a wonderful worker.

Tobacco is injurious to the heart. It causes a great many diseases of the heart. The disease caused by it is called "tobacco heart."

It injures the walls of the heart by making them become clogged up with fat.

It injures the blood vessels by letting in more blood. This injures the appearance of the face, causes blood-shot eyes and a red blotched nose.

Mabelle G. Beatty

Simple View of Body
The Circulation

The circulation of the blood is the process by which the blood is distributed through all parts of the body.

The two circulations are the pulmonary or lesser, and the systemic or great circulation. The pulmonary or lesser circulation is the course of the blood from the right ventricle through the lungs and back again to the left auricle. The systemic or great circulation is the course of the blood starting from the right ventricle, figure eight, and passing all over the body, then back to the right auricle or upper part of heart.

The organs of circulation are

the heart, lungs, arteries, capillaries and veins.

The blood circulates, or goes around the body. The blood is divided into two parts, the large blood vessels, and the little blood tubes, which are so tiny that you can not see them with out a microscope.

The heart is the centre of circulation. It is situated in the centre of the chest between the lungs, its widest part, the apex being inclined to the left side, and a little forward. It is the size of a person's fist, being five inches long, three and one half inches broad, and two and one half inches thick at the base.

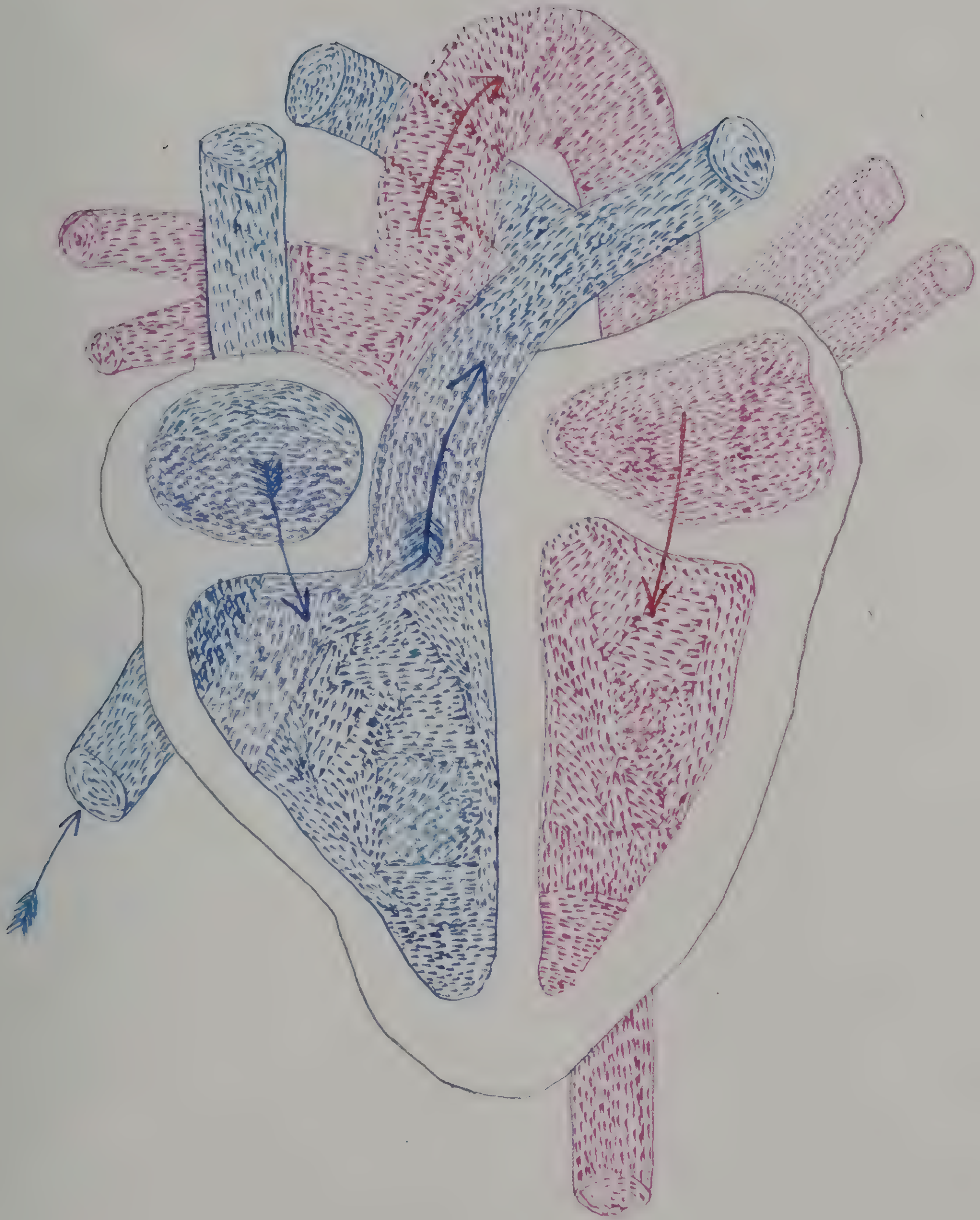
The heart is divided into four parts; the right and left

auricle being on the upper part, and the right and left ventricle on the lower part.

As the heart is the centre of circulation, the blood starts from the heart. The impure blood starts from the right auricle and contracts and is sent into the right ventricle. From there it is sent into the pulmonary artery, and goes to the lungs.

The lungs are situated around the heart, and are leaf-shaped. They are composed of air cells and blood vessels. The fresh air comes in through the wind-pipe to the lungs, and purifies the blood, while the impure air or carbonic acid goes out.

The pulmonary artery then



into the very little capillaries, and oxygen in the air cells; and flows back to the right auricle and then into the left ventricle. The left ventricle sends it into the aorta; which is the largest artery in the body.

An artery is a tube which carries pure blood and flows from the heart, while the veins are just the reverse, carrying impure blood and going to the heart. The capillaries are very small hair like tubes which are divisions of the artery. The artery then branches of into the shoulders, lower extremities, and into little capillaries, all over the body. They then send back, as impure blood to the right auricle, where it started.

Tobacco weakens the heart and often causes heart disease.

Alcohol clogs the heart with fat and makes it beat too fast. And it also affects the blood by making it very thin and watery. If a habitual drinker should receive a cut, he would probably bleed to death because the blood is so thin that it would not clot.

Alcohol makes the heart beat so fast that it can not get its rest, and so the drunkard dies with heart disease. Alcohol also affects the blood vessels very badly. It toughens the walls of the blood vessels and makes them brittle and sometimes they burst, and cause instant

death, because the blood does
not clot. This occurs in a
[illegible] [illegible] face; the
blood vessels swelling so that
the face [illegible].

Walter Pearson

Seventh Year of Study

The Circulation

The circulation is the process by which the blood is distributed through all parts of the body. There are two circulations viz; pulmonary or lesser, and systemic or great circulation. The pulmonary is used to pump blood to the lungs and back again. The systemic is the process of pumping the blood all over the body and they bring back impure blood.

The organs of the circulation are heart, veins, lungs capillaries and valves.

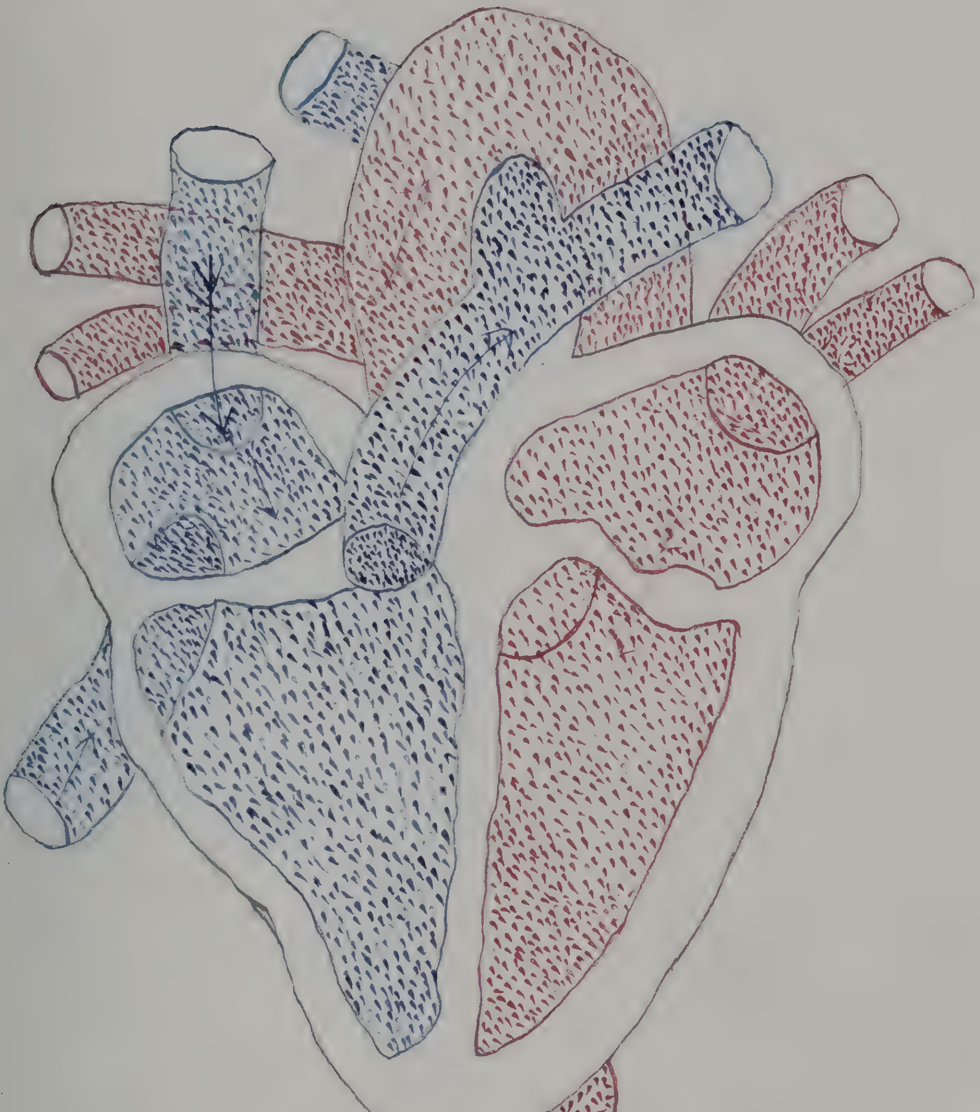
The Blood is known as a thicker than water. It is com-posed of two parts; a clear watery liquid called plasma

color and these are called corpuscles. There are so many of these corpuscles that it gives the blood a reddish color.

These corpuscles are so small that they can hardly be seen under the microscope.

The heart is a great organ of the human body upon which life depends. It is shaped like a pear, and is about as big as one's fist. It is five inches and one half long, three inches and one half broad, two inches and one half thick at its base. It is divided into four hollows, then each fourths. The names are right and left auricle and left and right ventricle.

The blood is brought from



the upper auricles to the
heart by veins and the same
with the lower ventricles.
The [illegible] [illegible] then
sent to the lungs to be purified.
The lungs are made of little
air cells [illegible] into the
dark blood goes. When the
blood is purified it is sent back
to the heart then to the left
auricle to the aorta which
sends the blood all over the
body. The effect of alcohol on
the heart. It makes it do unnecessary amount of work
which causes palpitation of the
heart.

Fatty degeneration of the heart causes
the irregularity of the beats
of the heart. It causes enlargement, the fat around the

burst.

The blood vessels are affected greatly. Sometimes the walls of the vessels are weakened by the gathering of fat. They swell out in places and becoming thinned are liable to burst.

Lillie Matlock

Seventh Year of Study

The Circulation

The circulation is the process by which the blood is distributed through all parts of the body.

There are two circulations; the pulmonary or lesser, and the systemic or great circulation.

The pulmonary or lesser circulation is the process by which the blood is sent from the heart through the lungs where it is purified by the carbonic acid gas going out and the oxygen coming in. The pure blood is then sent back to the heart. The heart and lungs are the chief organs of breathing.

The systemic or great circulation is the process by which the blood is sent from the heart to all parts of the body.

The heart is about the size of your fist, being five inches long, three and one half inches broad, and two and one half inches thick.

The impure blood passes from the right auricle into the right ventricle into the pulmonary artery which is the only artery in the body which carries impure blood. It is then distributed through the capillaries of the lungs where it is purified. It is then sent through the left pulmonary vein into the left auricle, then to the left ventricle. From there, it is pumped into the aorta which is the largest artery in the body, and the pure blood is then distributed to all parts of the body.

The lungs are another organ of circulation. They are very spongy and shaped somewhat like a leaf.

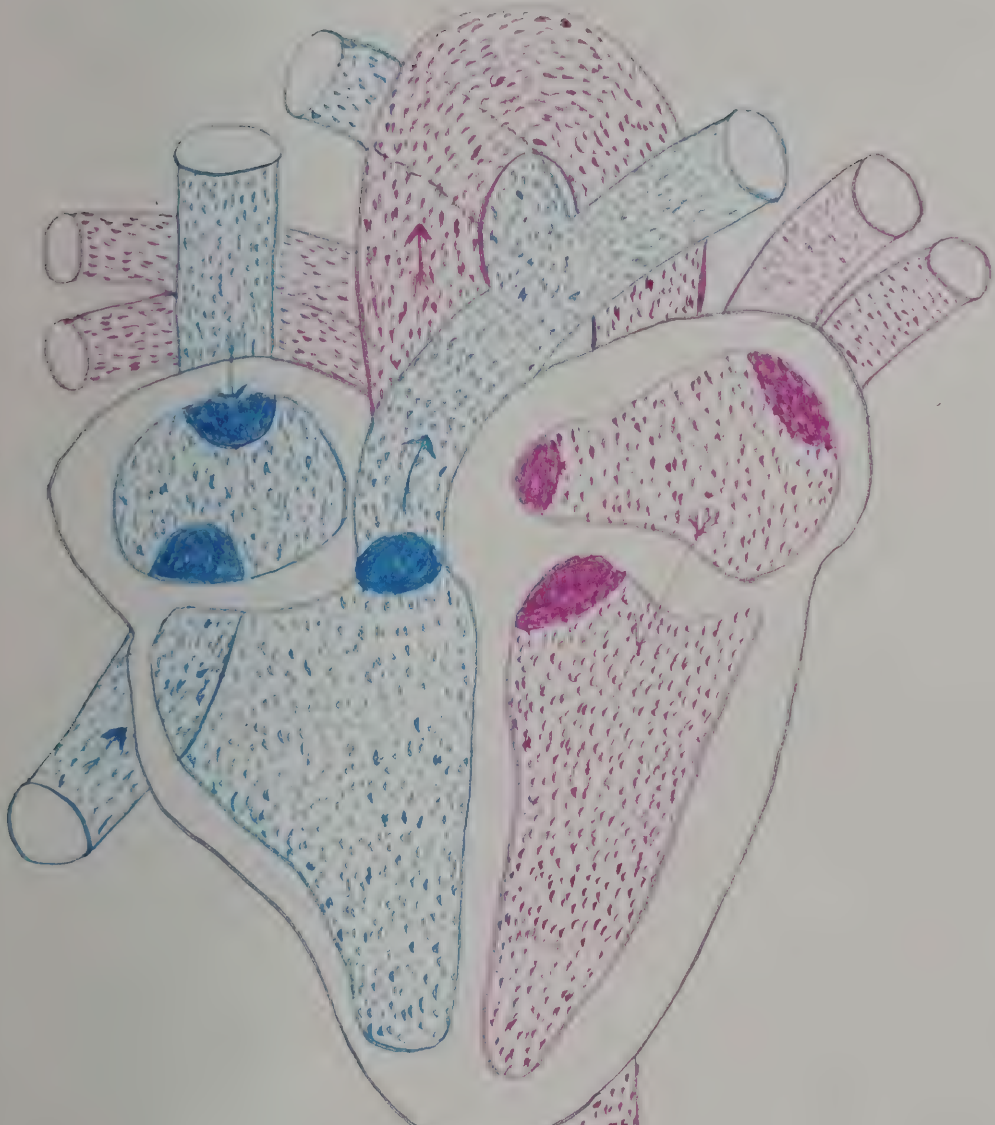
The organs of circulation are the heart lungs, arteries, veins, and capillaries through which the blood a thin watery liquid, is sent all over the body to take away all the impure particles and waste matter to feed nourish, strengthen and warm the body. The blood is divided into two parts; the thin watery fluid, and the blood disks

The arteries carry the pure blood from the heart to all parts of the body. They lie deep in the flesh, and if cut, the blood will come out in spurts, as bright red. The blood itself is not red, but white and heavier than water, but it is the little red blood disks that makes it look so. If you should take one drop of blood on the end of a needle, there would be millions of these blood disks

Wherever you find an artery, you will almost always find a vein.

The veins are the tubes which carry the impure blood back to the heart. They lie near the surface, and when cut, the blood will run in a slow steady stream. The impure blood is of a dark blue color.

The heart is situated a little to the left of the center of the chest, and does a great deal of work: it being the center of circulation. It has four divisions: the right and left auricle, whose walls are not very strong, for they only pump the blood into the right and left ventricle whose walls are very strong, for the right ventricle pumps the blood through the pulmonary artery into the lungs to be purified while the left ventricle pumps it all over the body.



When a person takes cold, it is apt to settle on the lungs, and cause bronchitis or pneumonia, if we are not careful. This causes the air tubes to fill up and if this hardens it will stop the breathing and cause instant death. The lungs have a great deal of work to do, but not so much as the heart.

If a person takes alcohol, or tobacco into his his system, it causes what is called, "fatty heart," that is, as if the heart were a piece of meat with a great deal of fat on it. This causes death in a short time. It also makes the blood very thin and the blood vessels in the face, enlarging the corpuscles, collect and block up the passages, and the walls of the arteries become very thin. This effects the brain and the face and nose become blotched

The face of a drinker sometimes becomes as dark as that of a mulatto.

Alcoholic drinks overwork the heart: makes it beat a great deal faste so it does not get all of its rest. This overworks the heart so much that it will soon stop beating and the person kills himself just because he cannot control himself enough not to use alcohol and tobacco.

Mary S. Childs.

[illegible]

The Circulation.

The circulation of the blood is the means by which the food is distributed throughout all parts of the body.

The two circulations are the pulmonary or lesser and the systemic or greater. The blood in the pulmonary passes from the heart to the lungs and back again. The blood in the systemic goes from the heart carrying pure blood to the lungs again it goes into the aorta and is distributed through out the body and then comes back to the heart; it is impure now but it is made pure and goes on its journey again.

The organs of circulation are the heart, the lungs, the arteries, the veins and the capillaries. The blood warms, nourishes and cleanses the body. The blood is a thin watery liquid, thicker than water. It contains millions of millions of little disks which are mostly red and therefore give the blood its color. Some

of them are yellow and some white. They
disks are so small that one million of
them can be put on the point of a pin.

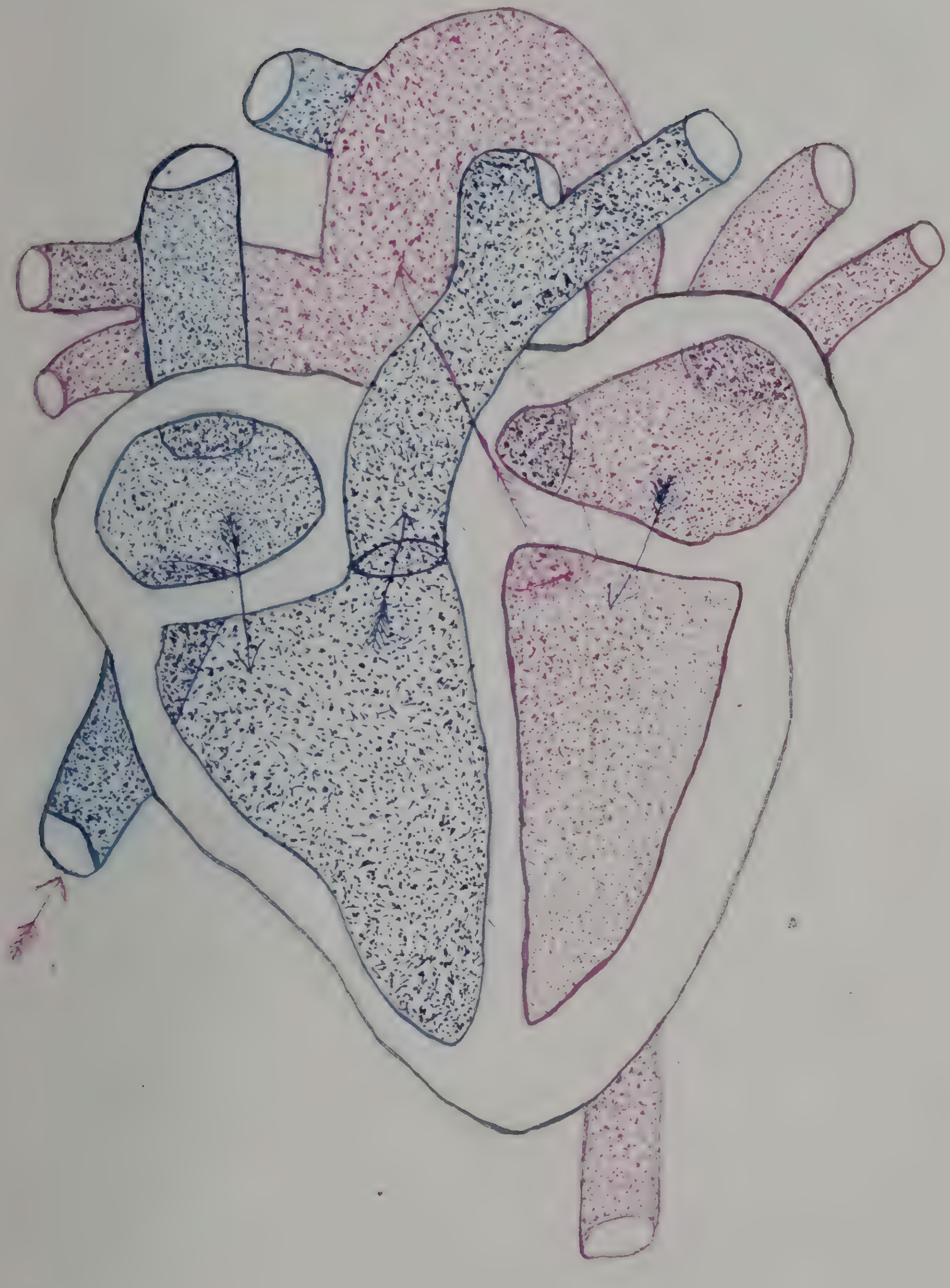
The heart is shaped like a pear and is
made of muscle. It is the organ of
circulation. It is about the size of one's fist,
being about five inches long, two and a half
inches thick and two inches wide at the
smaller end. There are four inner parts to
the heart; namely, the right and left auricle
situated in the upper part of the heart, and
the right and left ventricle situated in the
lower part of the heart.

Impure blood from the upper part of
the body enters the right auricle by a
large vein, and the impure blood from
the lower part of the body, enters in the
same manner only by a different vein.
The auricle then contracts and the blood
passes into the right ventricle which also

oxygenate and the blood goes to the lungs by the pulmonary artery, which is the only artery in the body that carries impure blood. The blood goes from the lungs back to the left ventricle; from which it passes into the left auricle; this blood is more pure than it was in the lungs, we inhale in oxygen and breathed out the carbonic gas. No man or animal could live without oxygen.

Veins are tubes which carry impure blood. The blood in the veins is darker and thicker than the blood of arteries and therefore it is not so dangerous to cut a vein as an artery because the blood in a vein will clot over a wound.

The blood in the arteries is pure (except in the pulmonary). The arteries are strong, white, elastic tubes. The blood flows rapidly because it comes directly from the heart. They are placed deep in the flesh to prevent injury.



They keep getting smaller and smaller till they are as small as the finest hairs on your head, these are called capillaries. The blood in the capillaries flows slower than the blood in the arteries.

The lungs are the organs of breathing. They are situated in the chest and surround the heart. There are two lungs which are composed of air cells and blood vessels.

Tobacco weakens the heart and causes heart disease. The Medical examiner of the United States Navy says that one out of every hundred applicants for office are rejected on account of their tobacco heart. Tobacco is not so bad as alcohol, but it is bad enough.

Alcohol makes the blood thin and watery that surgeons are unwilling to perform operations on any one who is

dirty & frothy will nearly bleed to death from a small cut. It also shrinks the little corpuscles and they can not do their work as well. The heart takes its rest between every beat. Alcohol makes it beat faster and so it does not have so much time for rest.

The heart is made of muscle and alcohol makes it fatty and therefore weakens it. It makes the disks block up the passages. When this occurs in the brain it causes paralysis. When it occurs in the liver or kidneys, it causes fatal disease. The arteries and capillaries which you cannot see in your sight condition show plainly in the bloodshot eyes and red nose and face of the drinker.

Annetta Archibald

Fourth Year Class

The Circulation

The circulation of the blood is the process by which the blood is distributed through all parts of the body.

There are two circulations; the pulmonary or lesser and the systemic or great circulation. The pulmonary artery is the only artery that carries impure blood; it carries it from the right auricle to the lungs. It is divided into two parts, the right and left; the right takes it to the right lung and the left to the left lung.

The lungs are the purifiers of the blood. They take in oxygen and let out carbonic acid gas. When the air is breathed into the lungs, the walls being so thin, it passes through and get into the capillaries and purifies the blood. It then takes it back to

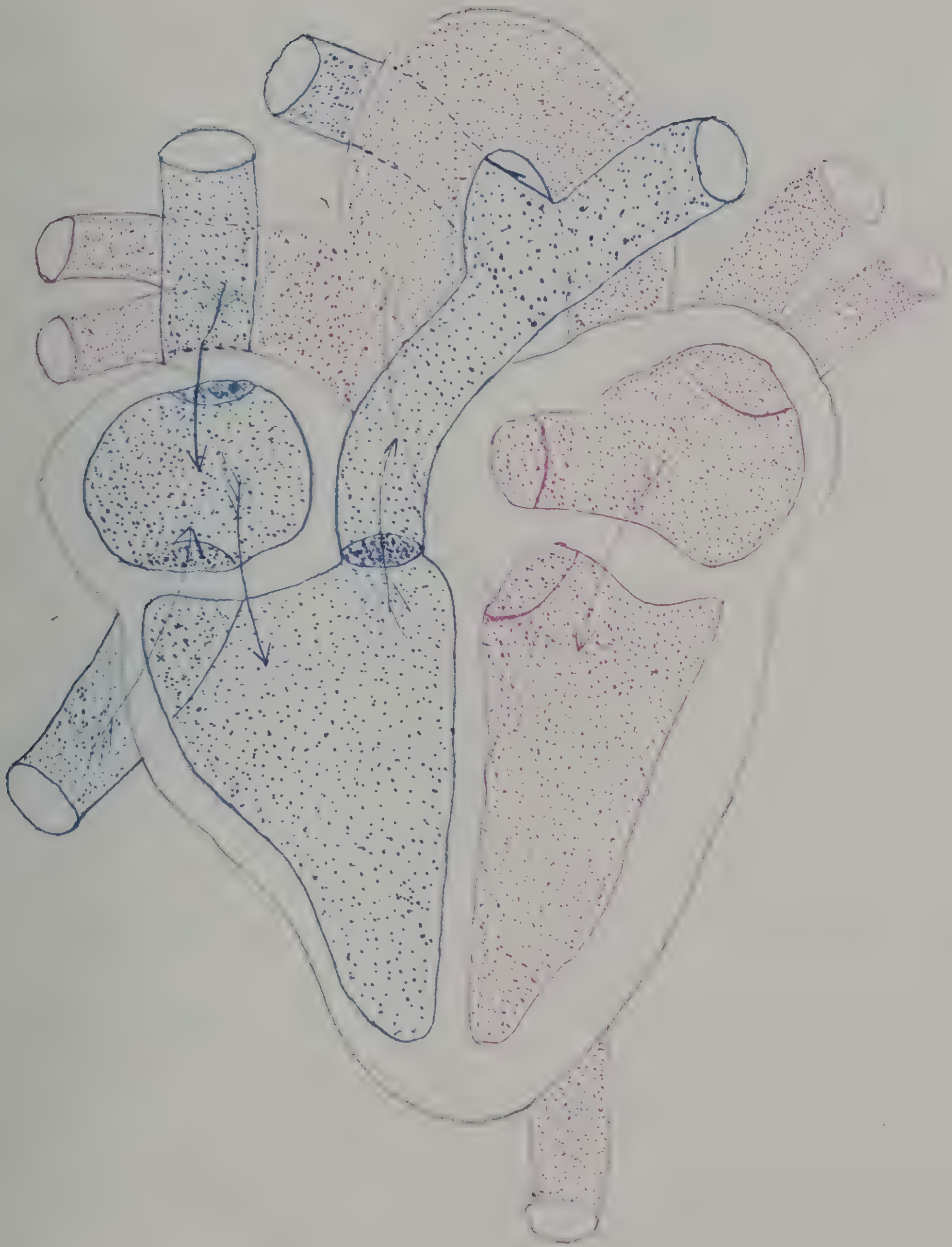
the left auricle. The system is formed by which the blood is taken from the left ventricle to the aorta and then all over the body. The organs are heart, lungs, arteries, veins and capillaries.

The blood is a thin red liquid which is heavier and thicker than water. It has two parts, the thin watery liquid which is not red as it appears to be, but looks red because these [illegible] are yellowish red and so close together.

The heart is the centre of the circulation. It is situated between the lungs, pointing to the left. It is shaped like a pear and about the size of one's fist. Its divisions are right and left auricle and right and left ventricles.

The lungs are situated on the right and left sides of the heart.

The lungs are composed of air cells and blood vessels.



They are the purpose of the Arteries I have said before. After the blood has left the lungs, it goes to the heart into the left auricle, from there to the left ventricle, from there, to the system or [illegible] through the aorta which is the largest artery in the body and there it branches into other smaller ones; some of which go all around the upper parts of the body and the parts which they cannot reach separate into capillaries which can nourish all parts of the body. The other arteries go to the lower parts of the body, and when the blood has nourished all parts of the body it is carried in a red flow on a steady stream to the heart through the veins.

There are valves in them so as to keep the blood from flowing backward, it goes back to the right auricle

and performs the same work every year.

The work of the heart of for many years [illegible] there any kind of [illegible] one. If an engine would try to do the work of the heart in one day it would be confused, yet we can acknowledge it.

Tobacco is bad on the heart, because it stops its flow of blood and [illegible] it work harder and it become diseased.

Alcohol as we know, make the blood go so fast that it does not have time to get any waste matter, neither does it have time to leave enough good matter, and this is very bad on the person who uses it because After he uses it awhile it will effect him so that he probably wishes he never had taken it. It also makes the heart beat faster and thus does not give it enough rest. If you have a [illegible] heart, [illegible] Keep it and take away from that.

Seventh Year of Study

The Circulation

The circulation of the blood is the process by which the blood is distributed through the body.

The two circulations are the pulmonary or lesser, and the systemic or greater. The pulmonary is the process of taking the impure blood from the heart to the lungs and back to the lungs again. The systemic is the process of taking the pure blood from the lungs to the heart and then all over the body and returning to the heart again.

The organs of circulation are the heart, lungs veins, arteries and capillaries.

The blood is divided into two parts; first, the thin watery liquid called the plasma; second, the red and colorless corpuscles. Blood is thicker and heavier than water.

The heart is situated between the lungs. It is of a peculiar shape somewhat like a pear. It is about five inches long and about three inches at its widest breadth. It has four divisions or chambers, the right and left auricle are situated in the upper part of the heart and the right and left ventricle are situated in the lower part of the heart.

The heart is the center of circulation. The impure blood is gathered from all parts of

the body by two veins which empty into the right auricle

Veins are made out of some sort of substance like gristle; they carry impure blood.

After the impure blood has collected in the right auricle contracts and pushes the blood through the vavles, which are sort of pockets of gristle which prevent the blood from going back and which seperate the right auricle and venticle. Then the right contracts and sends the blood up the pulmonary artery.

This the only artery which carries impure blood

The blood is then carried to the lungs.

The lungs are like two

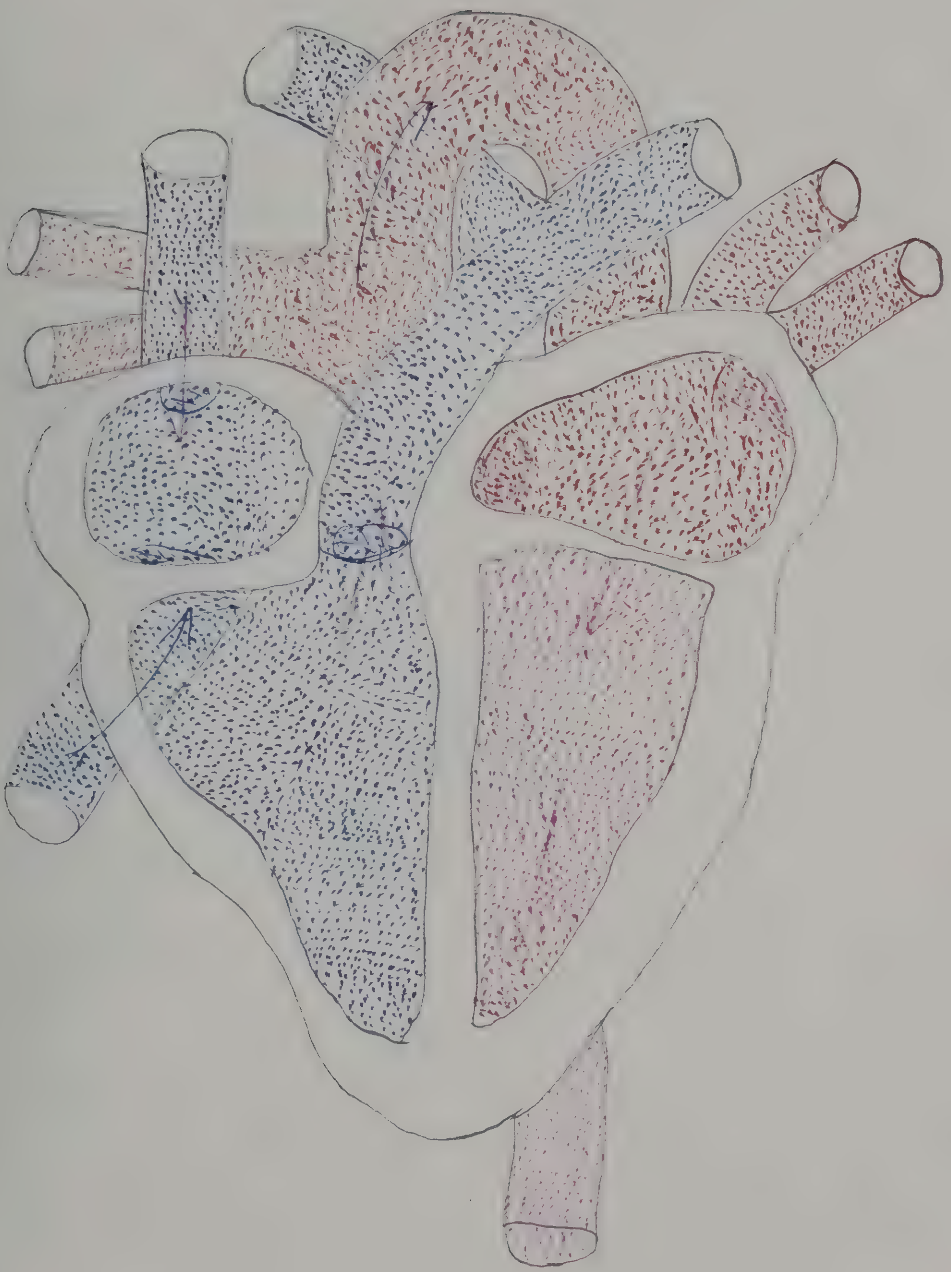
bags filled with air. They are
composed of air cells and blood
tubes. They are situated in the
upper part of the chest.

The oxygen, which we breathe
in, purifies the blood and when
we breathe out, a part of their
impurities are taken out.

The blood is of a bright
red after it becomes pure.

Then the blood is taken in
the pulmonary veins to the
left auricle; then the left
auricle; then the left auricle
contracts and the blood is sent
to the left ventricle. The left
ventricle contracts and the blood
is sent up the aorta.

The arteries are tubes made
of strong, elastic substance
through which the pure blood



flows. The aorta is the largest artery in the body.

The aorta carries the blood all over the body. The capillaries take the blood to places where the arteries can not go. Some of them are so small that they cannot be seen with the naked eye, yet, they carry blood to nourish the body and take away the waste matter; this process is called nutrition.

At the end of each capillary is a vein. When the blood, becomes impure, it runs into these veins. These veins empty into two larger veins. and then empty into the right auricle.

The constant use of

tobacco weakens the heart and
some times causes "smokers heart"

Alcohol clogs the heart
with fat, making it over work.
It also makes the blood
thin and watery. It enlarges
the capillaries letting too
much blood flow through.

Sadie L. Holmes.

Seventh Year of Study

The Circulation

The circulation of the blood is the process by which the blood is distributed through all parts of the body.

There are two circulations, the pulmonary and the systemic. The pulmonary carries the blood from the heart to the lungs and back again and the systemic carries it from the heart through all parts of the body and back again to the heart.

The organs of circulation are the heart, lungs, arteries, capillaries and the veins.

The blood is a thin watery liquid thicker than water; it has yellowish red blood-disks

floating in it which make it look red. The blood nourishes the body, cleanses the body, and warms it. The blood is divided into two parts; plasma or a thin watery liquid, and the corpuscles.

The heart is a little to the left of the center of the chest with the apex pointing in. It is about the size of a fist and is pear shaped. It is a strong muscular bag. The heart is divided into two parts and each part has two chambers. The upper chambers are called the right and left auricle, and the lower chambers, the right and left ventricle. The two sides are not

connected, but there are valves between the chambers in each case.

When the impure blood is carried into the right auricle, the right auricle contracts and sends the blood into the right ventricle. Then the right ventricle contracts and in turn sends the blood through the pulmonary artery, which is the only artery in the body which carries impure blood. The pulmonary artery branches ~~into two arteries~~, the right and left, one going to the right lung and the other to the left. The pulmonary divides into smaller tubes and then into capillaries. Some of the cap-

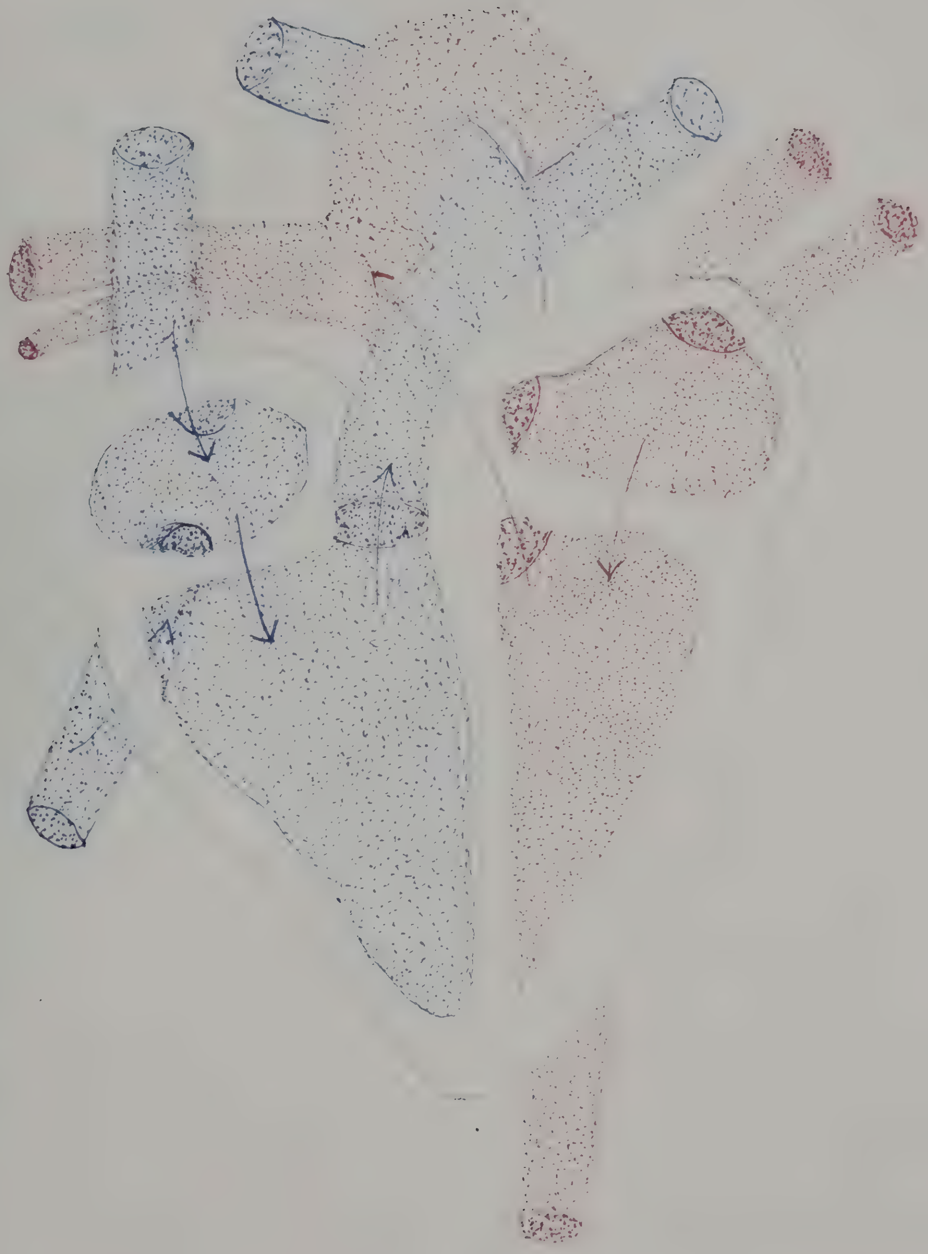
laries are smaller than the finest hair on your head. They are so small that the disks have to go through in single file and any blood that will lay on the point of a needle there are millions of these little blood disks. The capillaries give out the oxygen and takes in the carbonic acid gas. The pulmonary artery takes the blood to the lungs.

The lungs are the organs of breathing. They are divided into two parts. They are situated in the upper and outer of the chest. They are the shape of a leaf. The lungs have little cells into which

the blood vessels pass. The way you see through the walls because they are so thin but the blood cannot get through. Then the blood is sent back through the pulmonary vein to the left auricle. The left auricle contracts and sends the blood into the left ventricle. The left ventricle contracts and sends the blood into the aorta. The aorta is the largest artery in the body. The aorta branches into smaller tubes.

The arteries are tubes which carry pure blood, which is a bright red color and flows in quick jerks.

The veins carry the impure blood which is dark



ed and flows steadily and sluggishly.

These tubes are the capillaries which circulate the blood through every part of the body. Nutrition is going on all the time which is capillaries bringing good substance and taking in the bad.

Tobacco weakens the heart and causes heart disease.

Alcohol weakens the blood and clogs up the valves the and sometimes makes them come together blocking up the passage, up in the head causing paralysis. Alcohol makes the heart beat faster and slugg

it with fat. It gives the heart but little rest.

Alcohol makes the blood vessels swell and the other organs flushed.

Pearl C. Graham.

Seventh Year of Study

The Circulation.

The circulation of the blood is the process by which the blood is distributed through all parts of the body.

There are two circulations; the pulmonary or lesser circulation and the systemic or great circulation. The pulmonary or lesser circulation carries the blood from the heart to the lungs and then back to the heart again; while the systemic or great circulation carries the blood from the heart all over the body.

The organs of circulation are the heart, lungs, arteries, capillaries, and veins.

The blood is a thin watery liquid filled with little red blood-disks and a watery substance or, it is composed

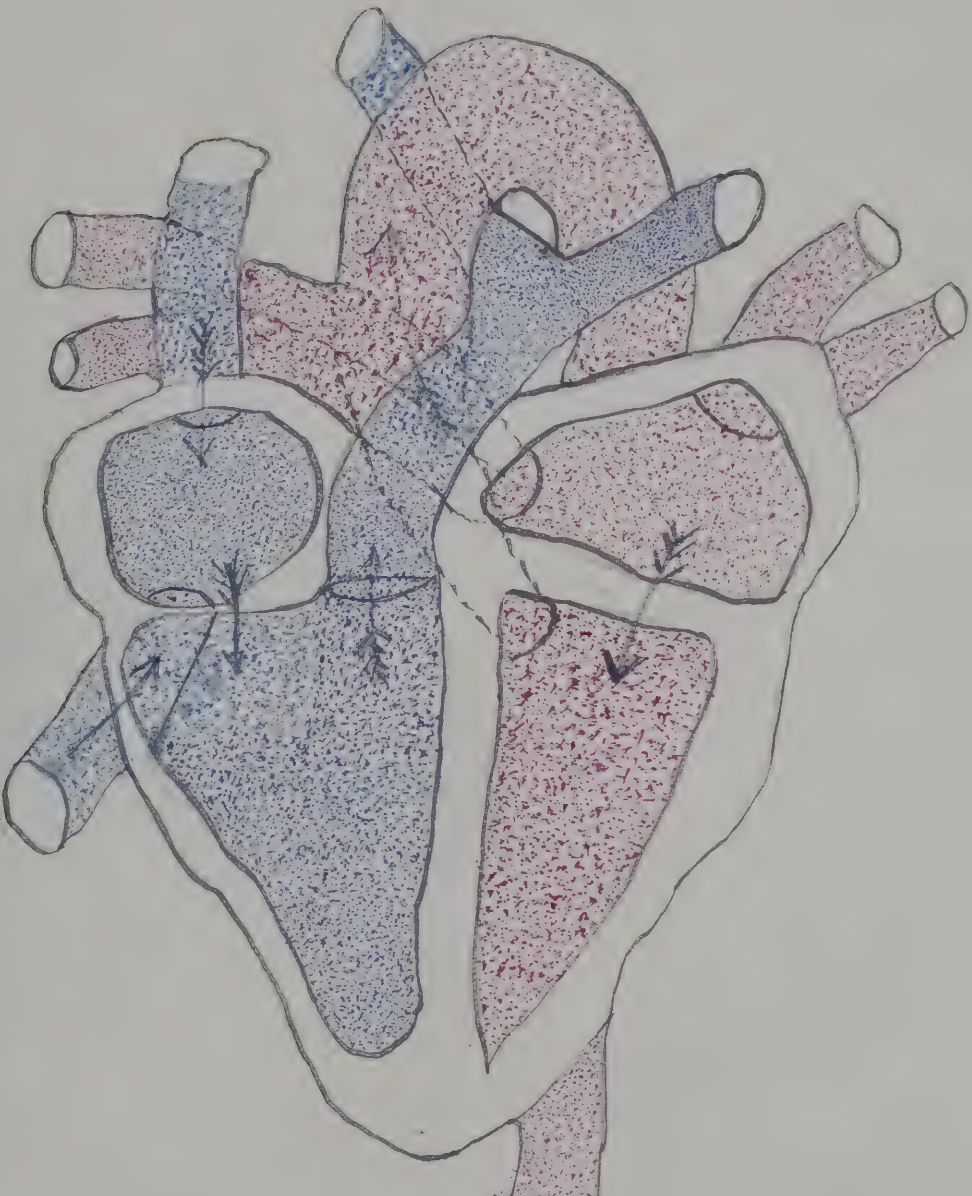
of plasma and corpuscles.

The heart is the centre of circula-tion. It is situated in the middle of the left side of the chest. It is about the shape of a top or pear and about the size of a man's fist. It is divided into four chambers which are the right and left auricles and the right and left ventricles. The right auricle is situated in the upper right side of the heart. The left auricle is situated in the upper left side of the heart. The right ventricle is situated in the lower right side of the heart, and the left ventricle is situated in the lower left side of the heart. The left ventricle is the principal chamber, and has the thickest walls. The right side of the heart is separated from the left side by a stout wall going through

the middle of the heart.

When the blood starts from the right auricle, it is impure; then the right auricle contracts and sends the blood into the right ventricle; then the right ventricle contracts and sends the blood into the pulmonary artery which is the only artery in the body that carries impure blood, and which separates and carries the blood to each of the lungs where it is made pure by the air.

The lungs are situated on each side of the chest and surround the heart. They are full of little air cells and blood vessels. The blood then goes back to the left auricle which contracts and sends the blood to the left ventricle. Then the left ventricle contracts and sends the blood through the aorta, which is the largest artery



in the body. The aorta sends branch arteries which go to the head, limbs and other organs and lead to the capillaries which are small tubes that leave the good materials and take away the bad materials. The blood then goes in the veins which take the bad blood back to the right auricle.

The heart is a very hard worker. It gets its rest between the beats, which amounts to more than eight hours a day in a person that does not drink.

Tobacco causes the heart to beat faster than its usual rate and often causes heart disease.

Alcohol thickens the blood and makes it flow slower than its usual rate. It also makes the heart beat faster and cloggs it with fat. It

takes part of the rest away from the heart and causes the blood-vessels in the face and other organs to enlarge so that the face will be flushed.

Ernest Herron

Eighth Year of Study
The Circulation

The circulation of the blood is the process by which the blood is distributed through all parts of the body.

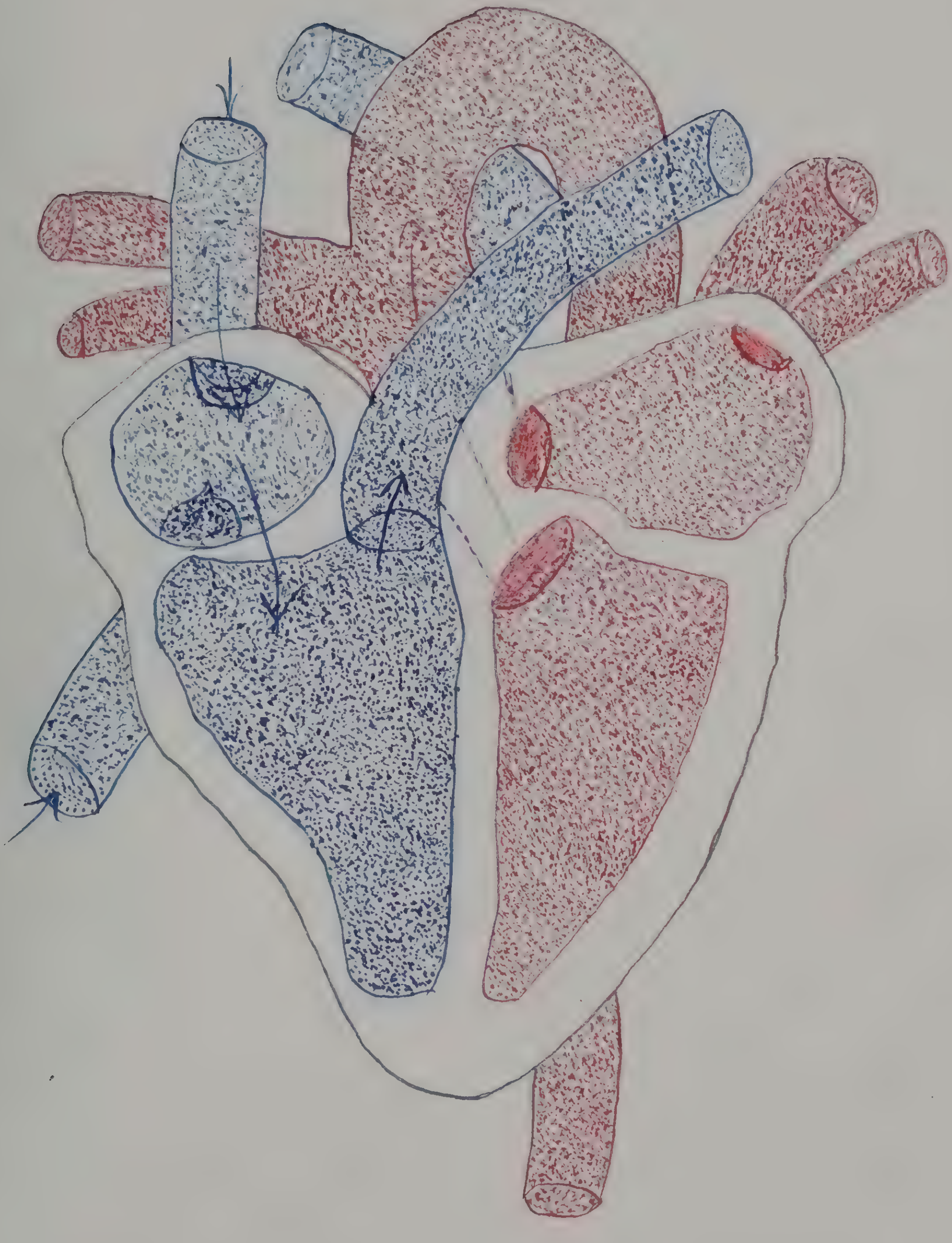
There are two kinds of circulation; the pulmonary or lesser which carries the impure blood from the right side of the heart, through the lungs to be purified, and then back to the left side of the heart, pure blood.

The systemic or greater carries the pure blood from the heart to all parts of the body and returns to the right side of the heart impure blood. The organs of circulation are the veins, arteries,

oxygen, heart and lungs.

The blood is a thin watery liquid. It is composed of two parts; the thin watery liquid called plasma and the red and white disks. These disks are the oxygen carriers of the blood. They are so small that millions of them would be in the amount of blood that would hang on the point of a needle

The heart is situated between the lungs, a little to the left and forward. It is shaped like a pear, and is about five inches long, three and one half wide and two and one half thick at the base. It is divided into four parts; the right and left ventricles,



and the right and left auricle.

All the impure blood is collected in the right auricle. It then passes to the lungs to be purified. The lungs are situated in the chest, and surround the heart. They are shaped like leaves.

They are composed of two parts; tubes for the blood, passages and air cells for the air. The blood then passes back to the heart. The heart then pumps it into the arteries and it goes into the capillaries and through the veins. Here it leaves the good materials for the body, and takes up the impurities;

6

this is called nutrition. It then passes into the arteries and

The arteries are strong tubes, they can be told from the veins by their color. They are given pure blood but the pulmonary which is the only artery in the body that carries impure blood.

The veins carry impure blood, and are a bluish color, but the arteries are red.

The blood now returns to the heart impure blood.

The heart is a great worker. There is not a steam engine that does as much work in a day as the heart.

It beats about ten thousand times a day, and throws an ounce of blood out at every beat, or two [illegible] a minute.

This amounts to over three-

the length of rest is shortend and the heart soon becomes overworked. It also clogs the heart with useless fat.

Alcohol makes the blood vessels weak and they extend. This may be seen the flushed face of a drunkard.

Walter Sanborn

Seventh Year of Study
The Circulation.

Circulation, is the process by which the blood is distributed through all parts of the body.

There are two kinds of circulation, the pulmonary, or lesser, and the systemic, or great circulation. The pulmonary circulation is the circulation of the blood from the heart, to the lungs, and then back to the heart again. The systemic is the circulation of the blood from the heart, all over the body, and back to the heart again.

The organs of circulation are the heart, lungs, arteries, capillaries, veins.

The blood is a thin watery liquid. It is heavier than water. It is composed of two parts, the plasma or watery part and the little red corpuscles which

blood in the plasma. The corpuscles are very small, and of a yellowish red color. They make the plasma look red when it is. The blood is the cleaner warmer, and feeder of the body.

The heart is a dark, strong muscle. It is strong because it has hard work to do. It is situated in the chest, a little to the left. It is pear shaped, and is about the size of a man's fist. It is three and a half inches wide, and five long. The apex points toward the left and outward and downward. It is divided into two chambers in the upper part which are the right auricle and the right ventricle. And two chambers in the lower part which are the right ventricle, and the left auricle.

The blood passes from the right auricle, to the right ventricle before.

the right ventricle, through the pul-
monary arteries to the lungs, whilst
through the capillaries, where it gains
oxygen and parts its impure matters.
This is called [illegible]. It then goes to
the left auricle of the pulmonary veins.
It then goes to the left ventricle, and
then through the aorta all over the
body by means of the arteries;
it then goes to the veins and from
there to the right auricle.

[illegible] are [illegible] being a [illegible] strong,
white, elastic substance. They are
placed about the [illegible] to protect
them. The tendons are [illegible] or
[illegible] and at [illegible] [illegible] of [illegible]
and a large [illegible] [illegible] [illegible]
by [illegible] to each. The [illegible] [illegible]
the ends.

The [illegible] [illegible] [illegible] [illegible]
[illegible] the [illegible] [illegible] the [illegible] the

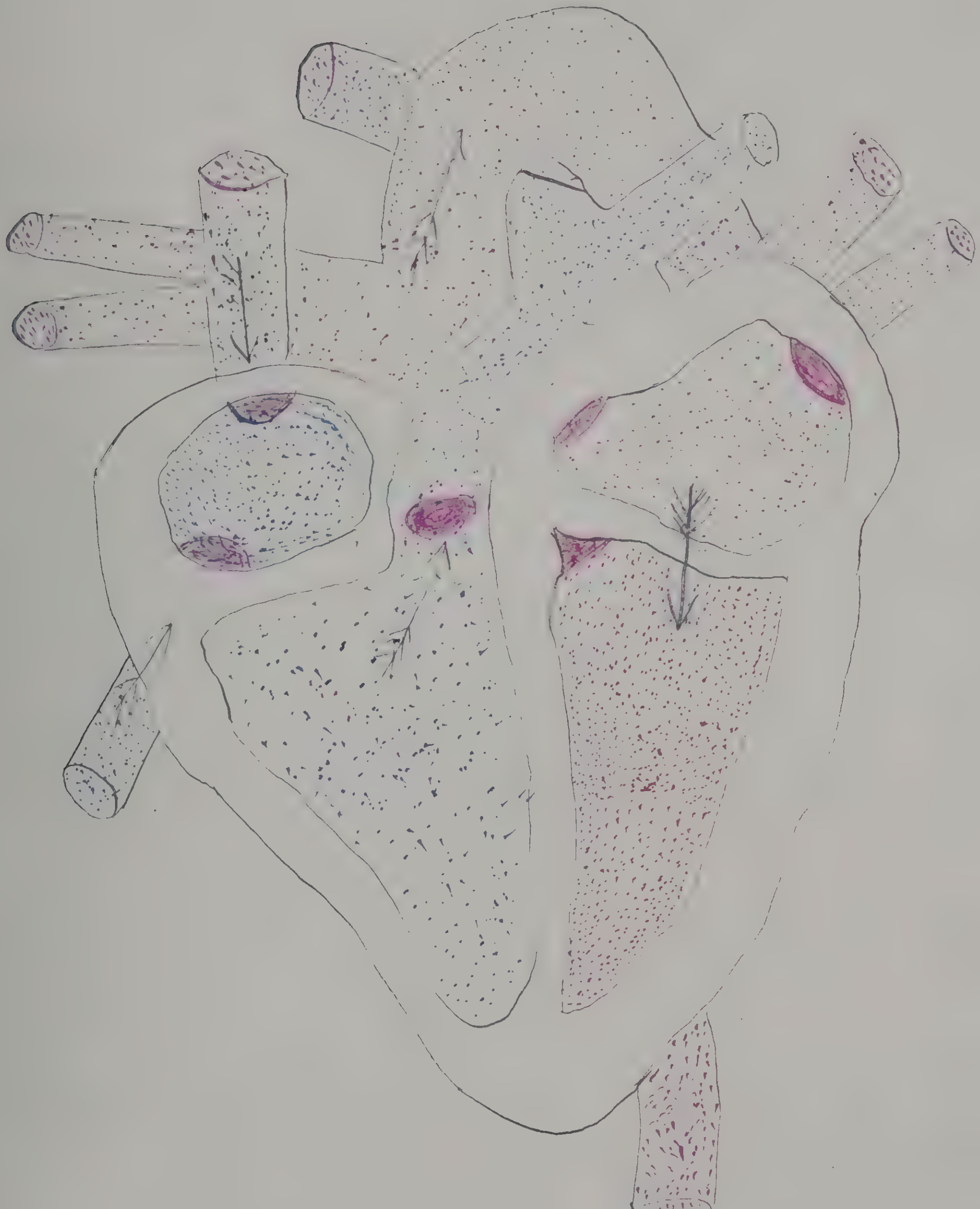
some parts of the body, the [illegible]
black and sick of [illegible] the passage
the blood in them gets the oxygen so
that it can do its work.

The veins are larger than the arteries
nonelastic and near the surface. The
blood in them is dark and impure. It
moves slowly and toward the heart.
There are little valves that permit the
blood to flow only toward the heart.

The pulmonary vein is divided into two branches: the right and left branches. The right branch goes from the right ventricle to the right lung. The left going from the left ventricle to the left lung.

The lungs are composed air tubes and blood vessels. They are in the chest around the heart, they leaf shape.

Circulation is very wonderful, nothing any man can invent will copy. with



it. We should therefore be very careful of our bodies.

Some diseases of the heart are caused by tobacco. Palpitation and a tobacco heart are caused by tobacco.

Alcohol has the effect of making the blood thin and watery; so that a habitual drinker will often bleed to death from a small wound. Surgeons are unwilling to perform operation on habitual drunkards as the wound does not heal readily. Alcohol has the effect of loading the heart with fatty matter so that it cannot throw the blood out with the right amount of force. It effects the rest by making the beats longer and the rests shorter, in this way the heart becomes overworked and weak. It effects the nerves that control the capillaries, by paralyzing them so that they let in a great deal of blood. This can be seen in the flushed face, bleared eyes

of the drinker. Alcohol affect the arteries by overloading them with fat and they become enlarged and are liable to break. It dries up the water in the corpuscles and in this way they cannot carry the right amount of oxygen to the tissues, or take off so much bad matter.

Lena E. Johnson

Sixth Year of Study.

The Circulation

The circulation of the blood is the process by which the blood is distributed to all parts of the body.

There are two circulations; the pulmonary or lesser and the systemic or the great. The pulmonary circulation is through the pulmonary artery (which is the only artery that carries impure blood) it goes from the right ventricle to the lungs where it is purified, it then goes into the left auricle.

An artery is a blood vessel with strong thick elastic walls. It carries the blood from the heart. In the systemic circulation, the blood goes into the aorta and is carried

all over the body. It is sent from the left ventricle, which goes through the ar-teries capillaries and flows into the right auricle and ventricle.

The organs of circulation are, the heart, lungs, veins, capillaries and arteries.

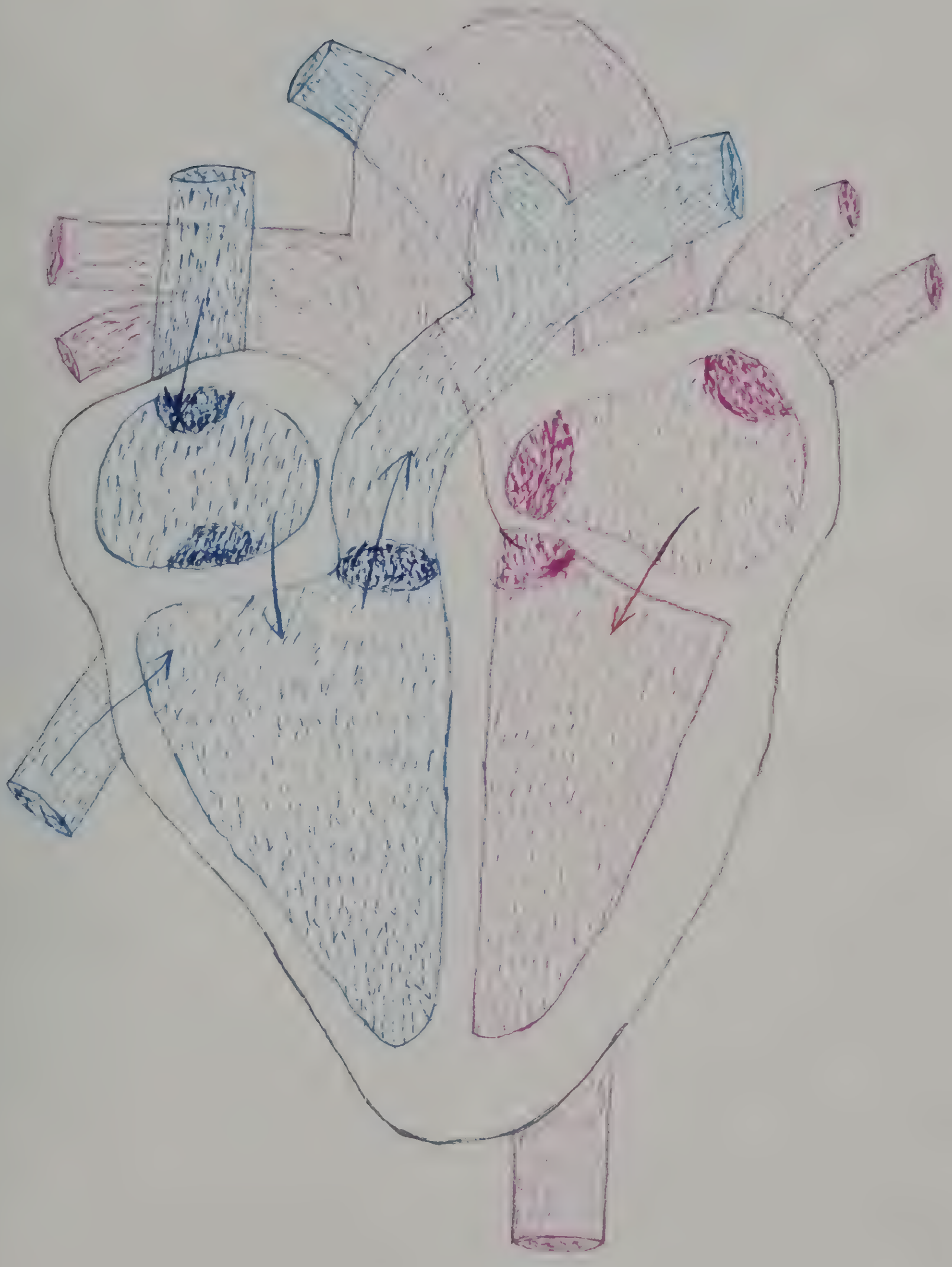
The blood is a thin watery liquid. It has red and white corpuscles in it. The liquid is called plasma, & as there is more of the red corpuscles, the blood looks red. It cleans, nourishes and repairs the body.

The heart is situated in the front part of the chest, the apex pointing to the left and forward a little. It is the shape of a pear and is five inches long, three and one half inches broad and two and one half inches thick at the base. It is divided into four parts; the right ventricle and

right and left ventricle and auricle. The auricles are on the upper part of the heart and the ventricles in the lower.

All the impure blood of the body flows into the right auricle which contracts and sends the blood into the right ventricle which in its turn contracts and sends the blood into the pulmonary-artery to send it to the lungs. The pulmonary artery divids into the right and left pulmonary and each division sends it to the lungs, the right pulmonary sends it to the right lung and the left pulmonary to the left lung.

The lungs are around the heart, and are leaf shaped. They are made up of little air cells and blood vessels. The blood is sent to the lungs to be purified by the oxygen which



we breathe in with the air. This oxygen comes through the walls of the capillaries which are very thin.

The blood then goes into the pulmonary veins and flows into the left auricle which contracts and sends the blood into the left ventricle which contracts, and sends the blood into the aorta which divides into veins and capillaries and is taken to all parts of the body.

Veins are blood vessels which carry impure blood. They are more crooked than arteries. Capillaries are blood vessels much smaller than the hairs of our head. After the blood has been sent to all parts of the body, it returns impure to the right auricle.

I think the work of the heart is a wonderful thing. Man can make noth-

ing like it.

Tobacco weakens the heart and often causes heart disease.

The blood of a drinker is thin and watery and if a man who drinks has a slight cut he is apt to bleed to death. Alcohol clogs the heart with fat and makes it beat faster and so have less rest it also hastens death. It makes the blood vessels larger letting in too much blood and so causing them to burst sometimes. This is why the face of a drinker is flushed. When alcohol is taken the corpuscles gather and stop the circulation, if this occurs in the brain it causes paralysis.

Emma H. Burgess.

Seventh Year of Study

The Circulation

The circulation of the blood is the process by which the blood is distributed through all parts of the body.

There are two circulations, the pulmonary and systemic.

The pulmonary circulation is the process by which the impure blood goes from the right side of the heart through the pulmonary artery to the lungs and returns to the left side of the heart pure blood.

The systemic circulation is the process by which the pure blood going from the left side of the heart to all parts of the body and returning to the right auricle

as impure blood.

The heart the lungs the arteries the capillaries and the veins are the organs of circulation.

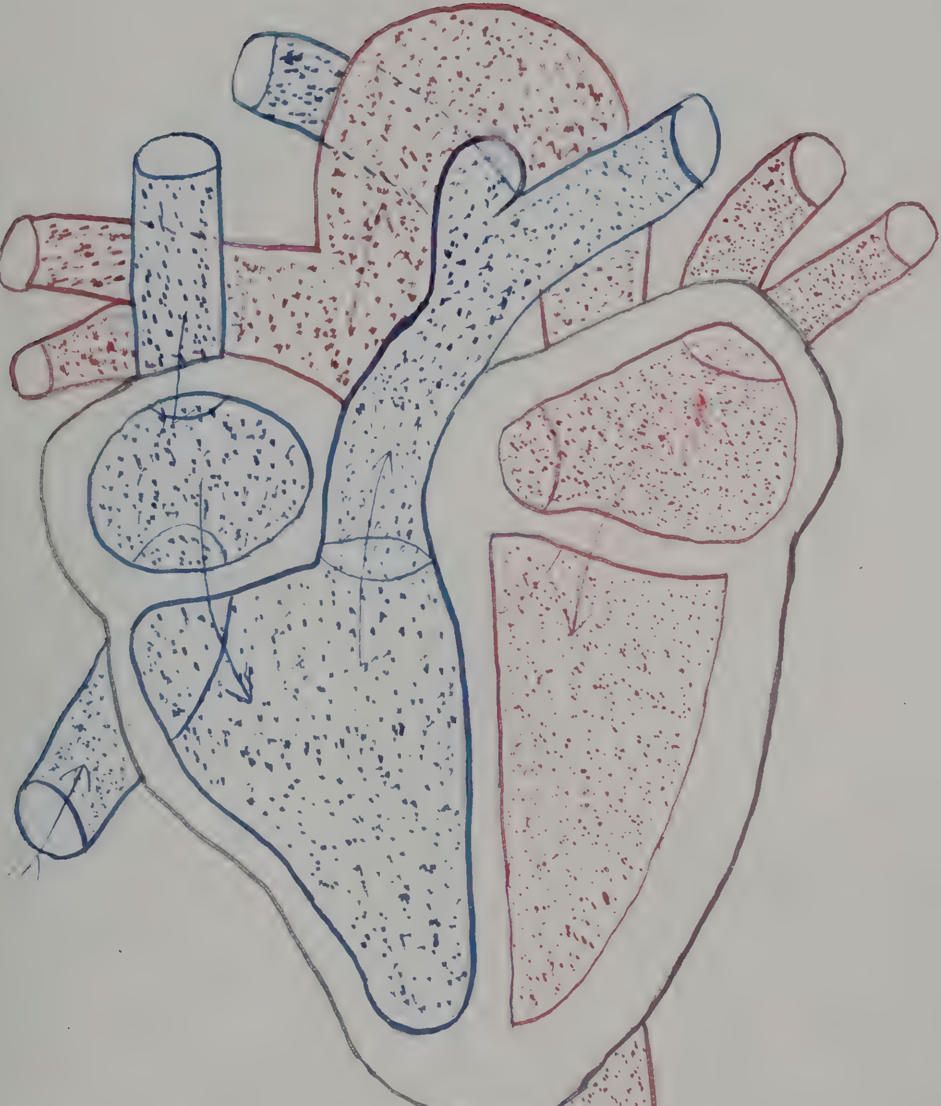
The blood is a thin moving fluid. It flows fast when it is pure and it flows slowly and sluggishly where it is impure. The blood is to strengthen flesh and to nourish the body. In as much blood as you could get on the point of an needle there would be a million of little disks. These disks are red and give the blood its color.

The heart is the centre of circulation of blood. It is situated under the chest with the apex pointing downward and forward. It is shaped like

a pear with the point downward.

The size of the heart, the heart is about five inches long, three and a half inches wide and two and a half inches thick. The heart is divided into four parts; the right auricle, the right ventricle, the left auricle and the left ventricle.

The venous blood collects from all parts of the body and empties into the right auricle in two places, at the top and at the side. It is then forced into the right ventricle and through the pulmonary artery of the lungs. An artery is a large blood vessel conveying impure blood of [illegible]



are small blood vessels carrying pure blood to all parts of the body. The lungs are around the heart. There are passages for air and tubes for blood in them. The walls of the capillaries are porous and so thin that the air can go through them but they are so thick that the blood can not get out. The lungs take out the carbonic acid gas and put in the oxygen [illegible] the body] and then into the capillaries of the lungs to be purified. It [illegible] to the left ventricle. It is then send all over the body and it comes back again to the right auricle as impure blood.

The [illegible] of the [illegible]
[illegible]
[illegible]
[illegible]

Tobacco [illegible]
and [illegible]
[illegible]
[illegible]
[illegible]

The [illegible]
[illegible]
[illegible] tobacco. Alcohol [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

Seventh Year of Study

The Circulation

The circulation of the blood is the process by which the blood is distributed through all parts of the body.

There are two kinds of circulation; the pulmonary or lesser circulation which is the blood circulating from the heart to the lungs and back again, and the systemic or great circulation which is the blood flowing around the body.

The organs of circulation are the heart lungs, arteries, capillaries, and the veins.

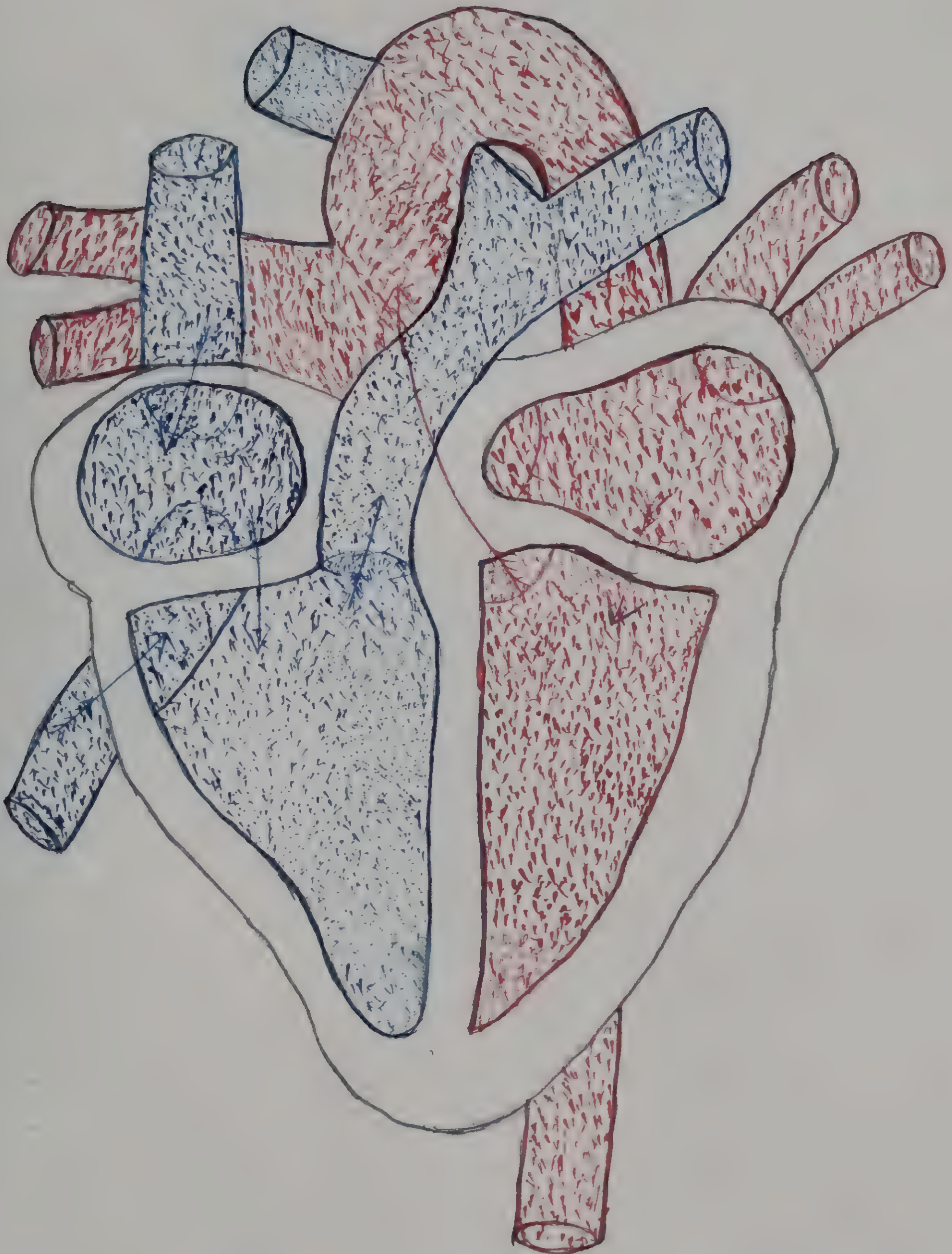
The blood is a liquid, heavier and thicker than

water. It is composed of two parts; the thin watery part called plasma, and the bodies called corpuscles; these are mostly of a reddish color and make the blood appear red. A few are colorless, and they are so small that in the amount of blood you could hold on the point of a needle there would be millions of them.

The heart, which is the centre of circulation, is situated between the lungs in the upper part of the chest, the apex pointing forward a little. It is a sort of a pear shape and is about five and one half

inches from top to bottom three and one half inches in breadth and about two and one half inches in diameter at the apex. It is divided into four parts; the right and left auricle which are the two upper parts, and right and left ventricle which are the lower parts.

The blood from the body first flows into the right auricle in two streams from two veins, one from the upper part of the body and the other one from the lower part. It then passes from the right auricle through the valve into the right ventri-



le and from these it is pumped into the pulmonary artery.

Arteries are the blood vessels that carry pure blood to the different parts of the body. The sides are made of an elastic tissue so the may stretch. The pulmonary artery is the only artery that carries impure blood. You can tell if you cut an artery. If you cut an artery, the comes in jerks and you would soon bleed to death; but if you cut a vein it will come in a steady flow and if a small one will stop of its own accord.

The pulmonary branches into two parts; one to carry the impure blood to the right lung and the other to carry it to the left lung.

The lungs are situated in the chest and are composed of air cells. The air-cells have such thin walls that the air we breathe can pass through them and purify the blood. The lungs are leaf shaped. The blood from the pulmonary artery flows into the little branches of the artery called capillaries each capillary has an air cell of its own

Capillaries are the

branches of the arteries.

They send good matter to nourish the body and take away the waste matter. They are able to do this because the walls are porous. This is called nutrition.

After passing through the capillaries where it gets purified; it then reenters the pulmonary artery and passes back to the left auricle; from thence it passes into the left ventricle and it is then pumped into the aorta which is the largest artery in the body. The aorta has branches leading to the

head, the arms, and the legs and to all the parts of the body.

The blood flows into these and then into the capillaries which take it to all parts of the body. It then flows into the veins which carry it back to the right auricle of the heart. By the time it has reached the veins it is of a bluish color and makes the veins look blue.

The heart is the centre of circulation, and has very hard work. If you lift one hundred and twenty two tons one foot off the ground you will

be doing as much work as the heart is doing all the time.

In four beats, it sends out about one ounce of blood and it has to send it with force enough to pump it about the whole body.

Alcohol makes the heart fat so that it is not so powerful and can not pump as strongly as it should. It deadens the nerves which act as brakes on the heart and keep it from beating to fast; and when they are deadened, they have no power and so the heart beats too fast. It does not have so much rest when it works so

fast.

Alcohol makes the blood thin and watery; and a drunkard is likely to bleed to death from a small cut because the blood is so thin. Surgeons are not willing to perform operations on them on that account. Alcohol also deforms the corpuscles so that they can not carry the waste matter away or bring the oxygen to the parts that need it, so easily. It also is very likely to make the corpuscles clot together and close the blood vessels and make you have paralysis if it closes on that leads to the brain.

It deadens the nerves
of the blood vessels and so
they can not work and
so lets the blood vessels swell
and so holds to much
blood. When they swell it
makes our faces look red.
It is likely to shorten
our life and it hurts
the organs of the body.
Tobacco has about the
same effect on the heart
as alcohol has, it quickens the beats but makes
them less powerful.

George H. Coleman

Seventh Year of Study

The Circulation

The circulation of the blood is the process by which the blood is distributed through all parts of the body.

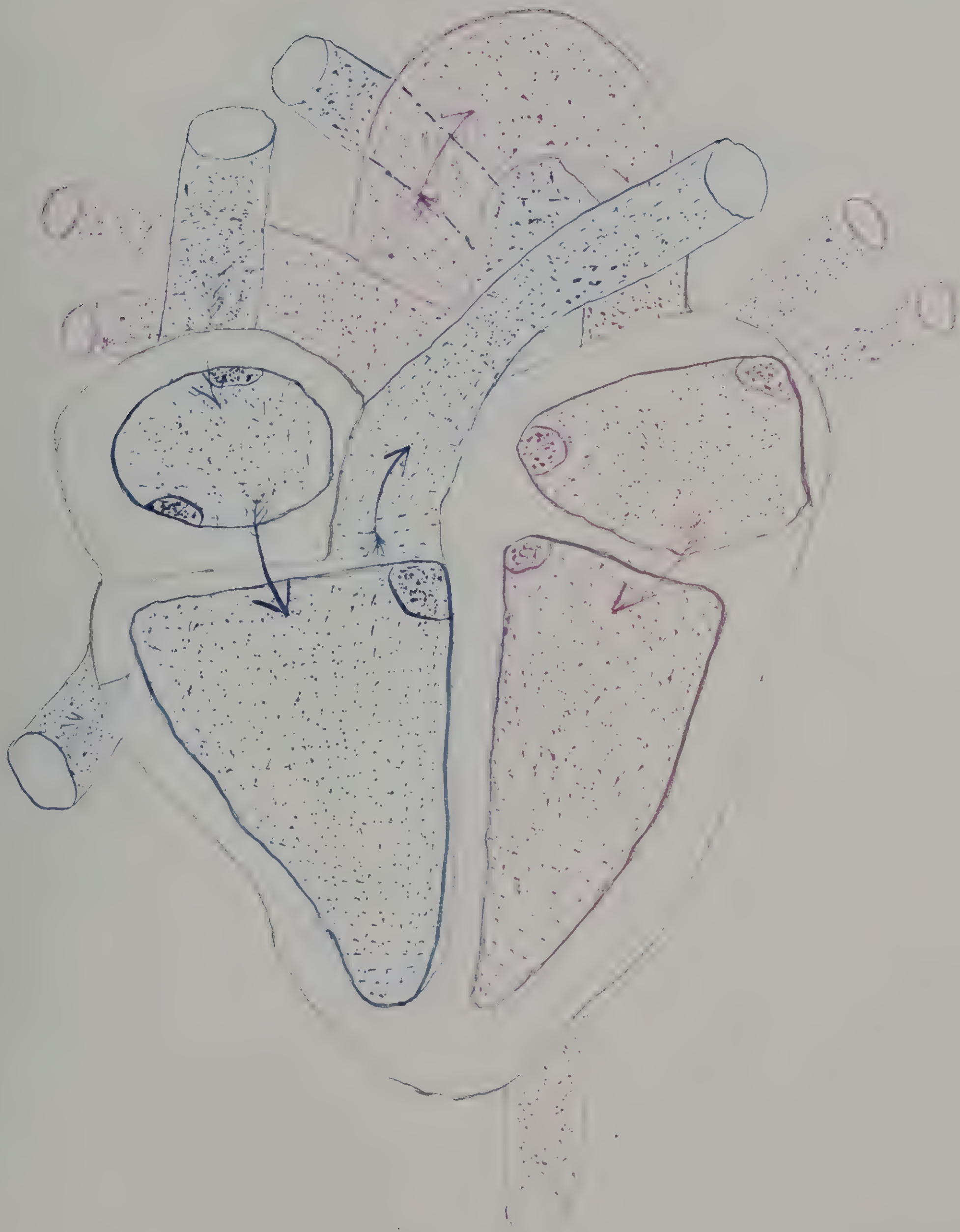
There are two circulations; the pulmonary or lesser and the systemic or great. The pulmonary or lesser connects with the heart and the lungs and the systemic or great circulates the blood to all parts of the body and back to the heart again.

The organs of circulation are the heart, arteries capillaries and veins and lungs.

The blood is a thin watery liquid. It is filled with very small specks called disks which are red and can not be seen with the naked eye. A French writer says that if

a stream of water were to be filled with red fish packed together very tight the stream would look red like the blood. The blood is heavier than water. It flows through the body and takes the material to every part which needs it. the parts would die if the blood did not work in this way. It also carries away the waste matter, and it is taken out of the body.

The heart is situated on the left side of the front of the chest. It is the shape of a cone or a pear; it is a strong muscular bag. It is as large as the closed fist being five inches in length three and a half inches in breadth and two and a half inches thick at the base. It is divided into four parts the right and left auricle and



the right and left ventricle.

The blood coming from all parts of the body (impure) it enters the right auricle by two tubes; one connecting with the upper part of the heart and the other connecting with the side of the heart. When it enters the auricle the right auricle contracts a little valve closes and forces the blood into the pulmonary artery. This is an artery which is connected with the lungs. It has two branches, one the left, and the other the right pulmonary. One goes to the right lung and the other to the left lung. The lungs are the shape of a leaf. They are situated in the upper part of the chest close to the heart.

The lungs have tubes which take

the blood and tubes which take the air. The oxygen and the food we eat are the great purifiers of the blood. It then passes through some veins and enters the left auricle where it contracts and passes into the left ventricle. This contracts and sends the blood into the aorta which is the largest artery in the body. It passes on through the capillaries until the blood disks enter tubes so small that they have to go through in single file. The small tubes are called capillaries. They are the tubes through which the body gets its nourishment. They are so small that they can not be seen with the naked eye. The blood then passes into the veins which carry the impure blood to the

right ventricle and this is called the circulation of the blood

I think the heart is a wonderful worker

Tobacco acts on the heart almost in the same manner as alcohol It weakens the heart and often causes heart disease.

Alcohol is a liquid which has a great attraction for water. It will burn, gives a blue light and a great amount of heat and has a blue flame. If any one drinks alcohol it will put their blood in a bad condition. It shrinks the blood tubes and it swells the tubes and makes the blood very thin so that it flows very fast and with such force that it is apt to burst the blood vessels. If a person who drinks alcoholic liquids

cut no matter how large the blood will flow so fast that the person may bleed to death The blood will not thicken around the cut the same as it will around the wound on a person who does not drink it.

The heart is a great muscular bag and if a person drinks alcohol it makes this so fast that it can not do its work so well and throw the blood out with the right amount of force. The alcohol makes the muscles stronger for a time and makes the heart beat so fast that it gets no time for rest in between the beats and that is a rule where life is shortened. Alcohol causes the corpuscles to flow through the tubes in little bunches this blocks

up the small passages in the small tubes and may burst.

If very much alcohol is taken, it causes the thick part of the blood to collect together and thus blocks up the passages; if this is done in the brain it causes paralysis.

The capillaries which can be seen in the healthy condition become so large and filled with blood that they can be seen in the face of a drinker.

Lee F. Wescott.

Seventh Year of Study

The Circulation

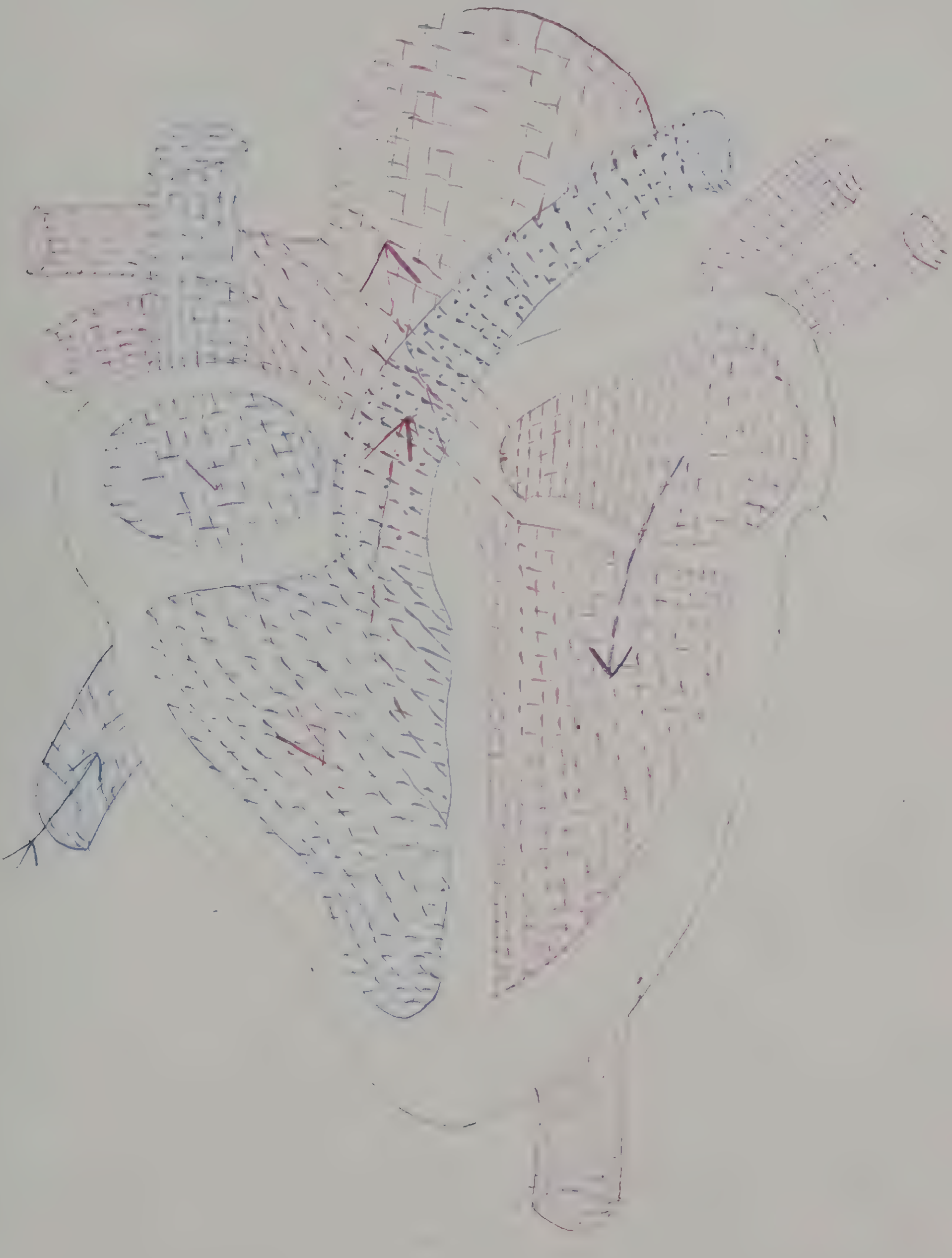
The circulation of the blood is the process by which the blood is circulated through the body.

There are two kinds of circulation; the systemic or great circulation, which sends the blood through the system and back to the right side of the heart impure blood; and the pulmonary or lesser circulation which takes impure blood to the lungs and comes back to the left side pure. There are two pulmonary arteries, the right and left pulmonary. They are the only arteries that carry impure impure blood. The organs of circulation are the heart, lungs, veins, capillaries and arteries. The heart is to force the blood over the body. The lungs are to purify the blood

The arteries are to carry the pure blood over the body. The veins are to carry the impure blood off the back to the heart. The capillaries are to carry blood to the small parts in the body.

The blood is a thin watery liquid in which float millions of red and white disks which make the blood look red. The blood carries nourishment to all parts of the body and takes away the impurities from the body. There are two parts to the blood; the watery part and the blood disks.

The heart is a strong muscular bag in the left side of the chest. It contracts and sends the blood through the body. It is shaped like a top. It is divided in two parts and each part is divided in two. The top cells are



called the auricles and the under cells are called the ventricles. The right side contains the impure blood and the left the pure blood.

The side of the heart sends the blood through the the pulmonary artery to the lungs. The lungs are in the upper part of the chest. The blood flows into the capillaries, and when it is pure, it flows into the arteries into the heart, and from there, through the body

The heart is a great machine. It is nearly in perpetual motion. If it should stop, we would die.

Tobacco has the same effect on the heart as alcohol. It makes the heart beat faster and with not so much force and the rest between each beat shortened and causes the "Tobacco heart."

Alcohol makes the blood thin, and

when a drunkard gets out it is hard to stop it because the blood will not form a clot. It weakens the nerves that control the heart so the heart has nothing to govern its beating. The heart needs rest, and when alcohol is taken, it beats faster and the rest between each beat is shortened and so the heart hasn't so much rest.

Geo. T. Crowley

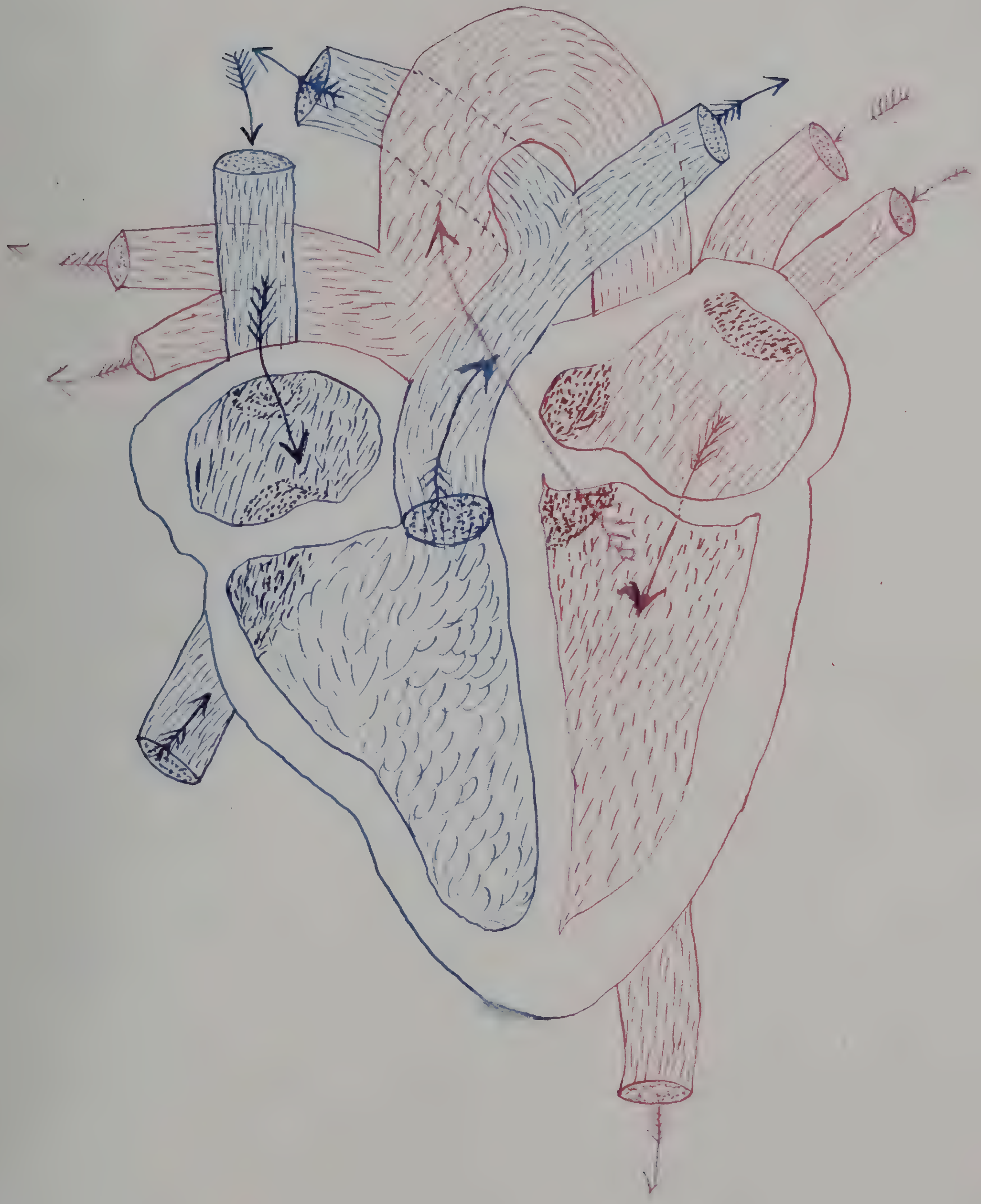
Lesson on Physiology.
The Circulation.

The circulation of the blood is the means by which the blood is distributed to all parts of the body.

The two circulations which take place in our body are the pulmonary and the systemic. The pulmonary circulation is where the blood flows from the heart to the lungs and back again. The systemic circulation is where the blood flows from the heart to all parts of the body.

The organs of circulation are the heart, the lungs, the arteries, the veins and the capillaries.

The heart is a hollow muscle, the [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]. It is situated above [illegible] [illegible] the body. It is composed of



[illegible] [illegible] [illegible] [illegible] the [illegible]
the [illegible] them the [illegible] [illegible]
(of [illegible] [illegible] [illegible] the
[illegible] which, and [illegible] [illegible] [illegible]
[illegible] as they [illegible] [illegible]
to the body.

[illegible] is the [illegible] of [illegible]
[illegible] the body, and the [illegible] [illegible]
of [illegible] [illegible] [illegible]

[illegible] that the [illegible] of the
[illegible] [illegible] [illegible], and the
[illegible] [illegible] [illegible] [illegible]
[illegible] of.

[illegible] [illegible] the [illegible] [illegible]
[illegible] [illegible] [illegible] and the
[illegible] [illegible]

[illegible] [illegible] [illegible] the [illegible]
[illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] the [illegible] [illegible]
[illegible], [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] of Study

The Circulation.

The circulation of the blood is the process by which the blood is distributed through all parts of the body.

There are two circulations: the pulmonary, or lesser, and the systemic, or greater. The pulmonary circulation is the passage of the blood from the heart to the lungs and back again to the left auricle. The systemic circulation is the passage of the blood from the left ventricle to all parts of the body.

[illegible] of circulation [illegible] [illegible] the [illegible] the [illegible] and the right auricle.

[illegible] [illegible] [illegible] [illegible]

little blood [illegible] on the [illegible]

of a [illegible] [illegible] [illegible] [illegible]

of flowers, the blood [illegible] [illegible].

They [illegible] in [illegible] [illegible], [illegible]

The [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible].

[illegible] [illegible] [illegible] [illegible] [illegible],

the body [illegible] [illegible] [illegible] [illegible]

among the [illegible].

[illegible] [illegible] of [illegible] [illegible] from

small parts of the body and the

[illegible] [illegible] of [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] of the

[illegible] of the [illegible]. [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible]

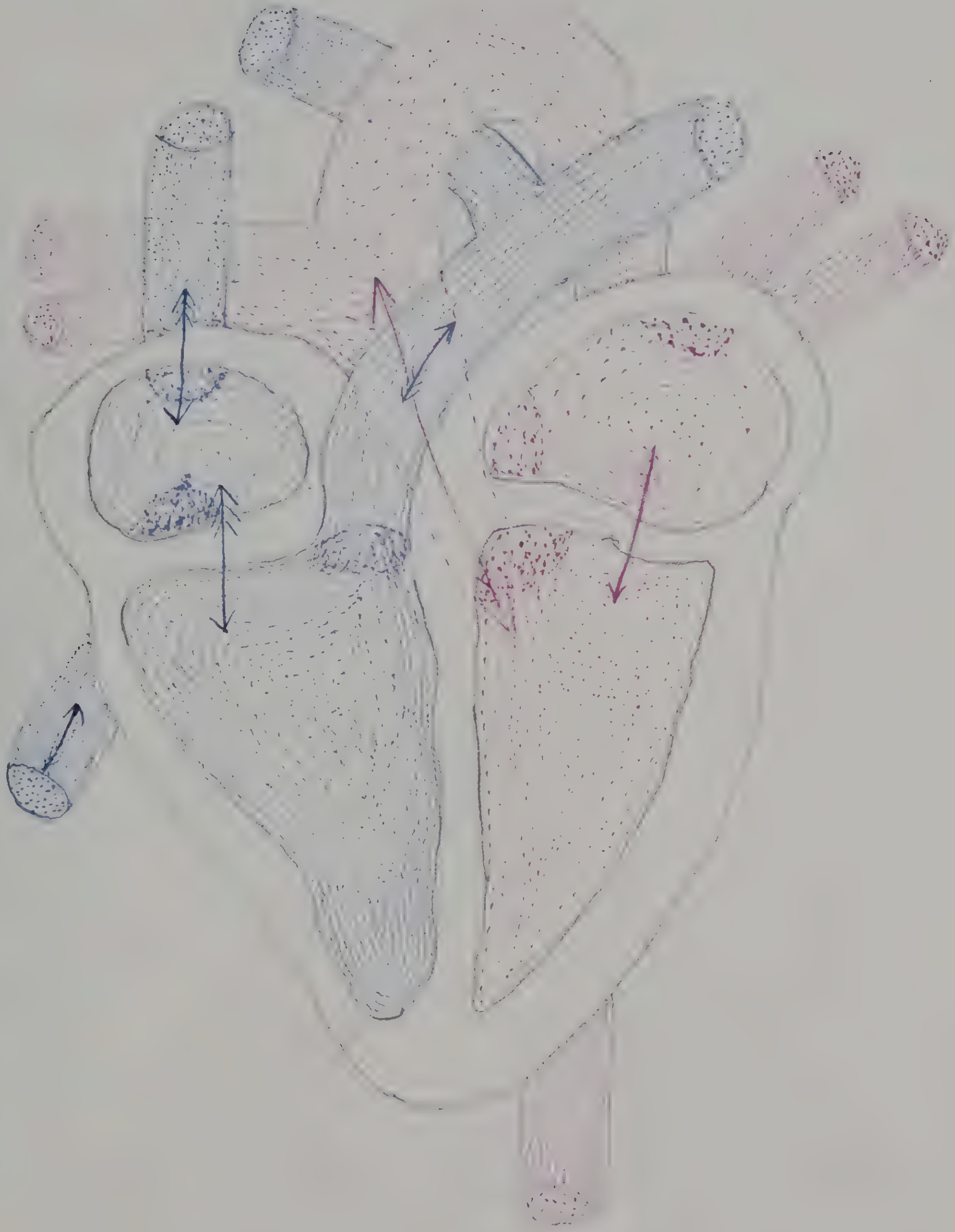
the [illegible] [illegible] the [illegible] [illegible] [illegible] -

[illegible] [illegible] [illegible] [illegible]

ch valve opening down

having pure blood, is called

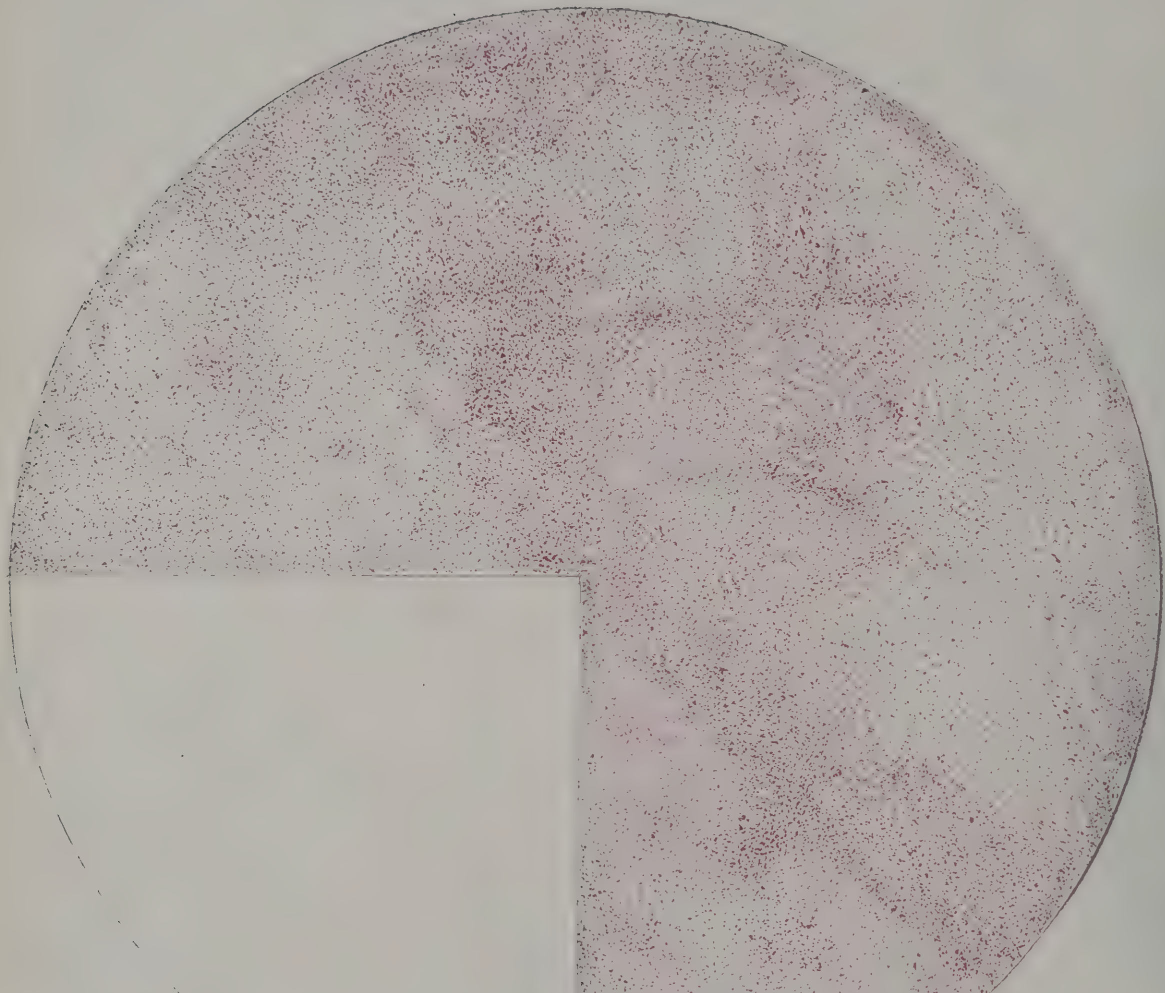
[illegible]



The heart is as wonderful as

It make the heart weak, and
ble to heart-diseases.

Alcohol makes the blood thi
because it absorbs the



Description of Diagram

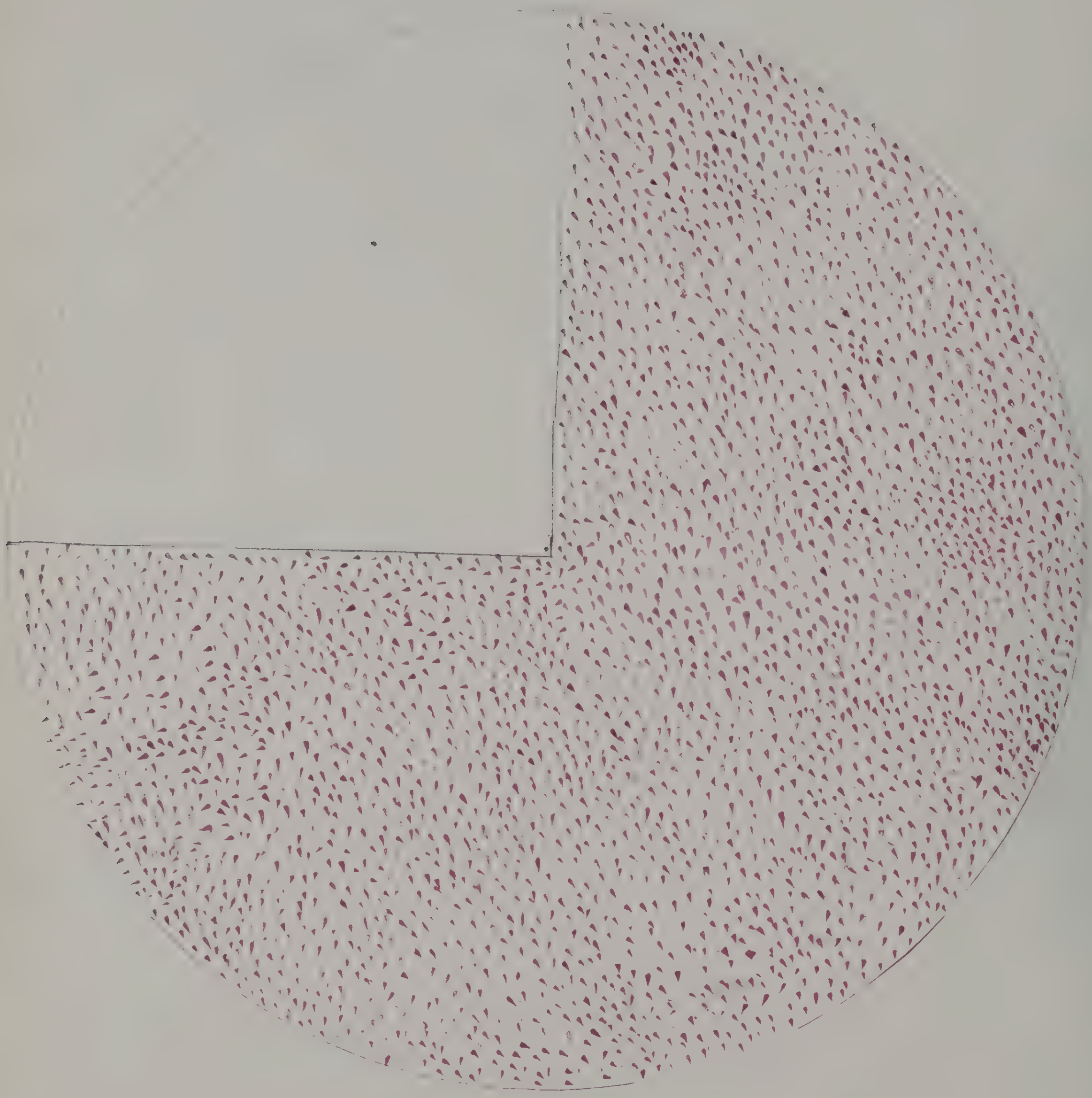
Three fourths of all the crimes are performed by people who use alcoholic drinks.

The noisy fighting people on the streets in the cities are mostly intoxicated.

Alcohol steals the senses and destroys the reason and when this is done it destroys a man's affection, and when all the senses of mind and heart are destroyed he becomes selfish.

If you were to visit States prison, you would find out that three fourths of the people were arrested from using intoxicating liquors.

Most of the people who use intoxicating liquors have poor families who suffer a great deal from the want of food and clothing.



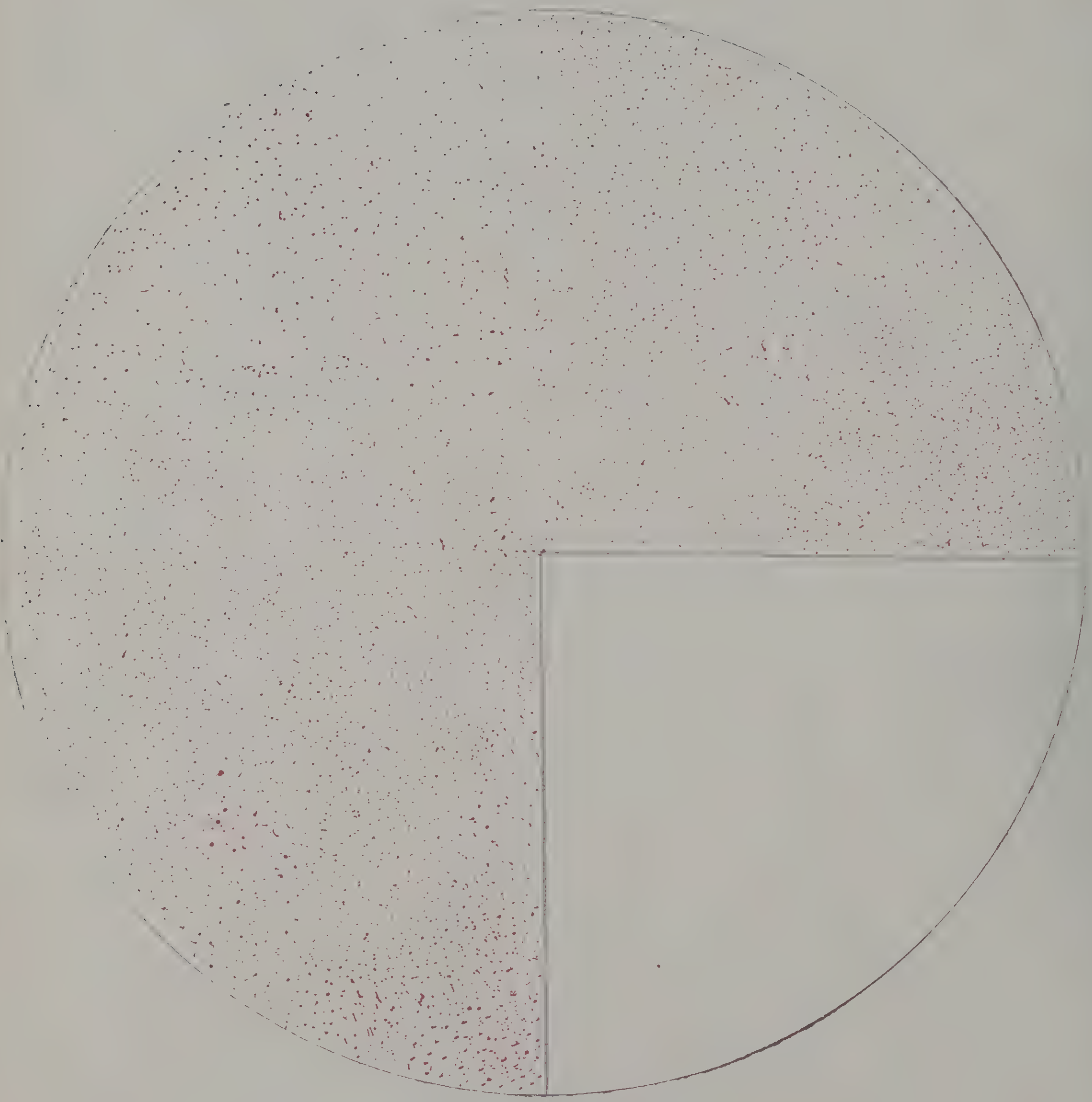
Description of Diagram

Three fourths of all the crimes that are comitted, such as murders, attempts to murder, fights, and street brawls, etc., are caused by alcohol.

Three fourths of all the arrests made for murder, and fighting are caused by alcohol.

Alcohol, when taken in large quanteis, will destroy a man's reasoning powers, and deals his senses so that men under the infulance of liquor are not responsible for what they do.

When a man's reasoning power, and his senses are gone, he becomes as a brute: He is not affectionate, as he would be if he was in his right mind. Alcohol destroys the finer qualities of man, and he becomes selfish as the lower animals.



Reciption of Dangers

Three fourths of all the murders and vicious crimes are caused by alchol.

If you were to visit the prisons and ask the keeper what proportion came there on account of the use of alchol, he would tell [illegible] [illegible] to their families.

Three fourths of all the people [illegible] on the street are caused by the use of alchol

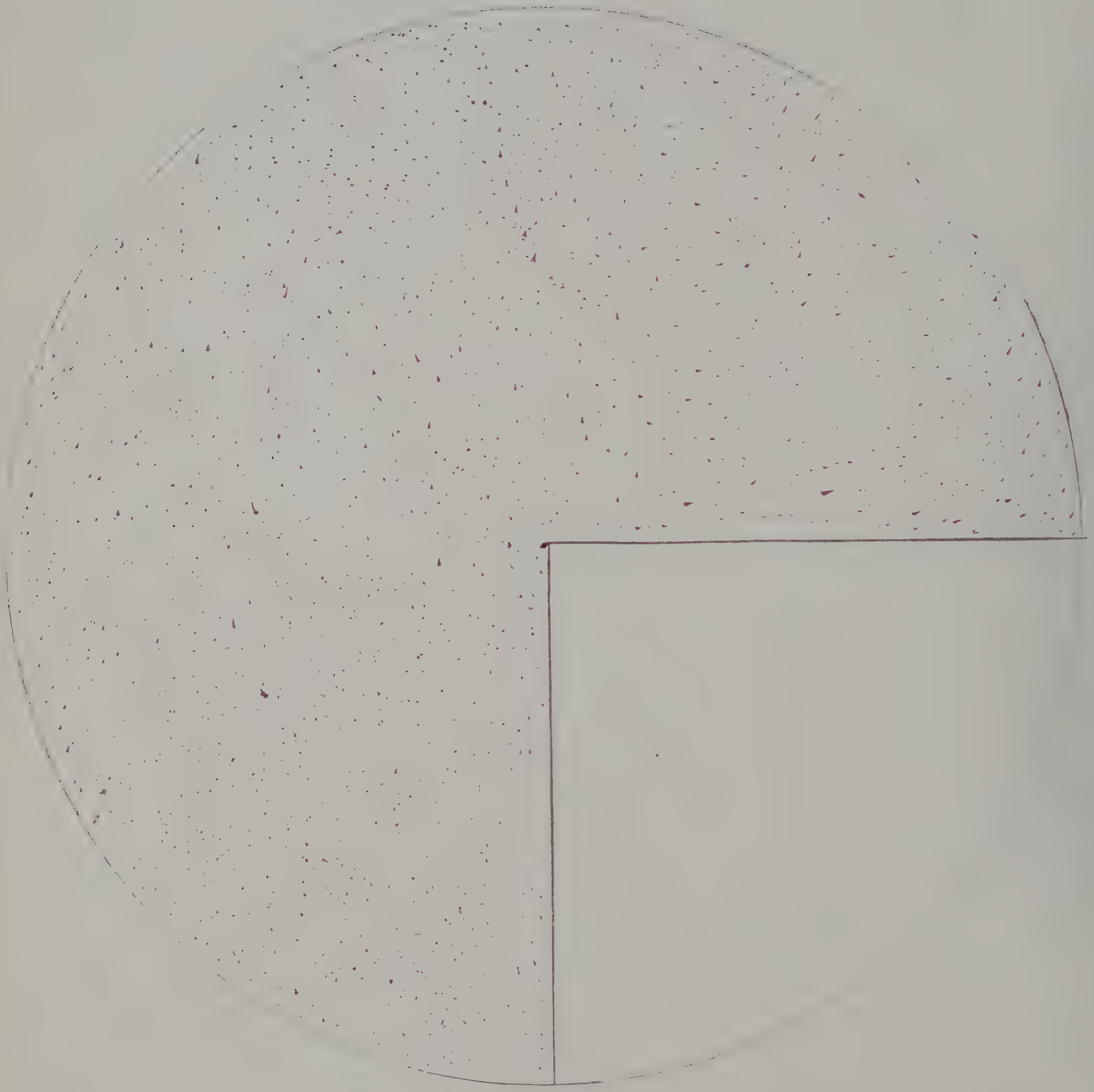
They [illegible] of [illegible]

[illegible] the [illegible] and [illegible] their [illegible].

[illegible]

[illegible]

themselves [illegible] well as others.



[illegible] of [illegible]

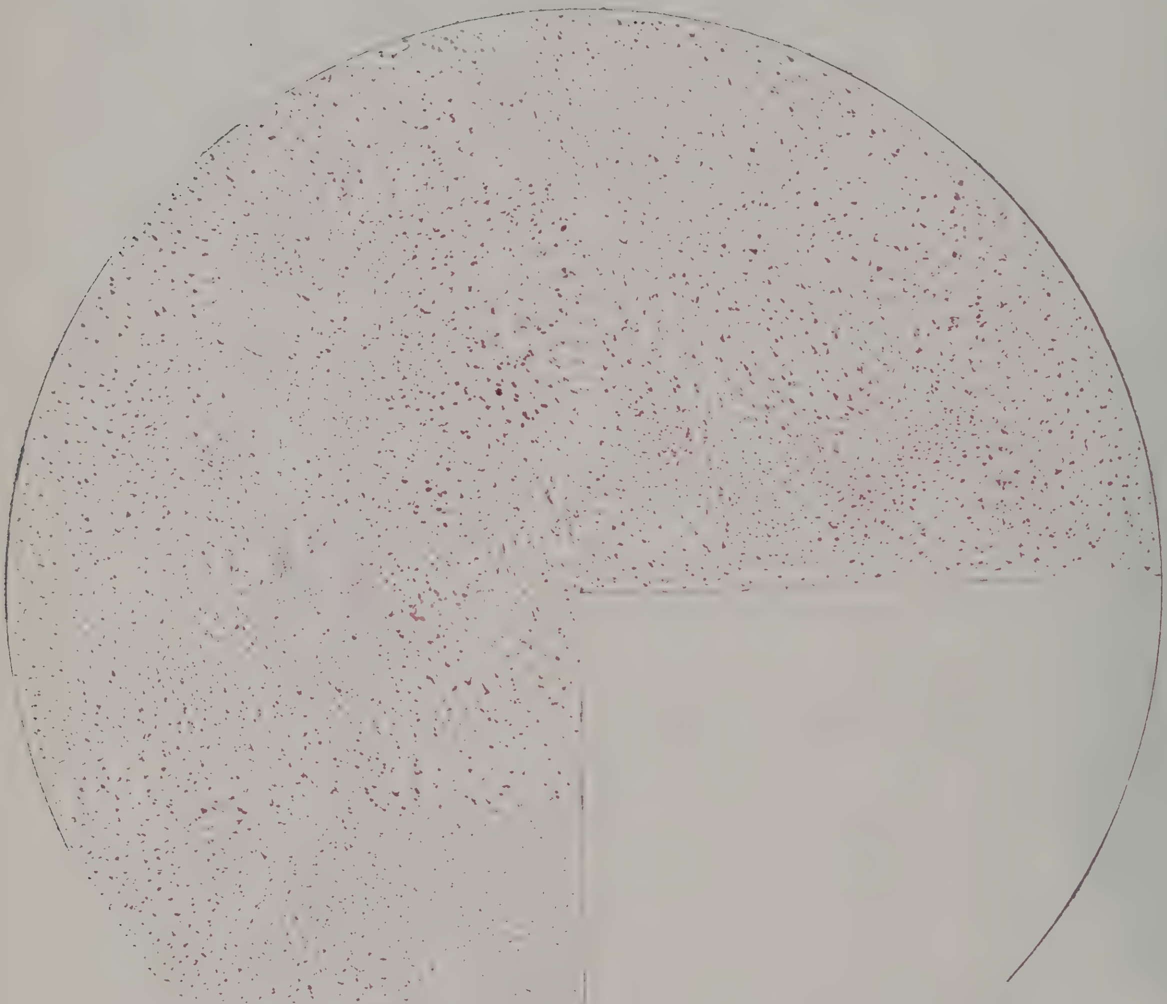
About three fourths of all the sorrows, attributable to [illegible]der and poverty, are caused by the use of liquor.

There is, also, about three fourths of all the [illegible] poverty, and other faults are caused by the use of liquor.

Alcohol attacks the [illegible] and that over-stimulates a [illegible] lovers. And that destroys the affection of a lover and they become brutish. They continue to murder their families. and they become insane.

When a person drinks quite a good deal the

[illegible] of the
[illegible]
very [illegible]
[illegible] that [illegible]
[illegible]
[illegible]



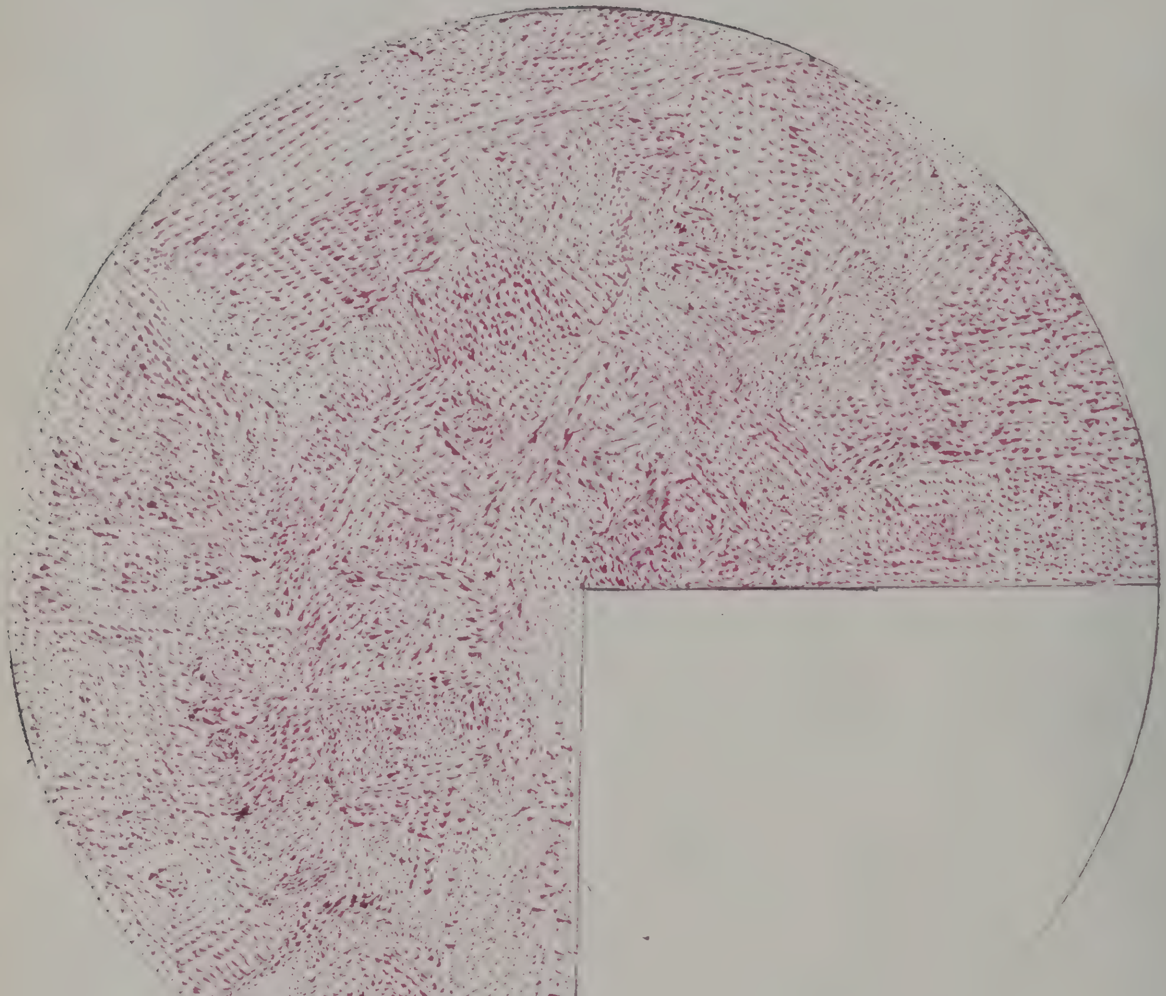
Description of Diagram

Three fourths of the murders and danous crimes are done by men and women under the influence of different kinds of alcoholic drinks.

Three fourths of the men and women, and sometimes boys and girls, who are arrested on account of disturbing the peace, such as drunken brawls and fights, are also under the influence of alcoholic drinks.

Alcoholic drinks steal away the mind and destroy the reason. Men and women when under the influence of liquor, would just as soon kill one another. They are as low as the brute and some are worse because animals love their children and drunken people do not.

These drunkards are so selfish that boots, bread and meat and every thing else goes to address their drinker



Description of Diagram

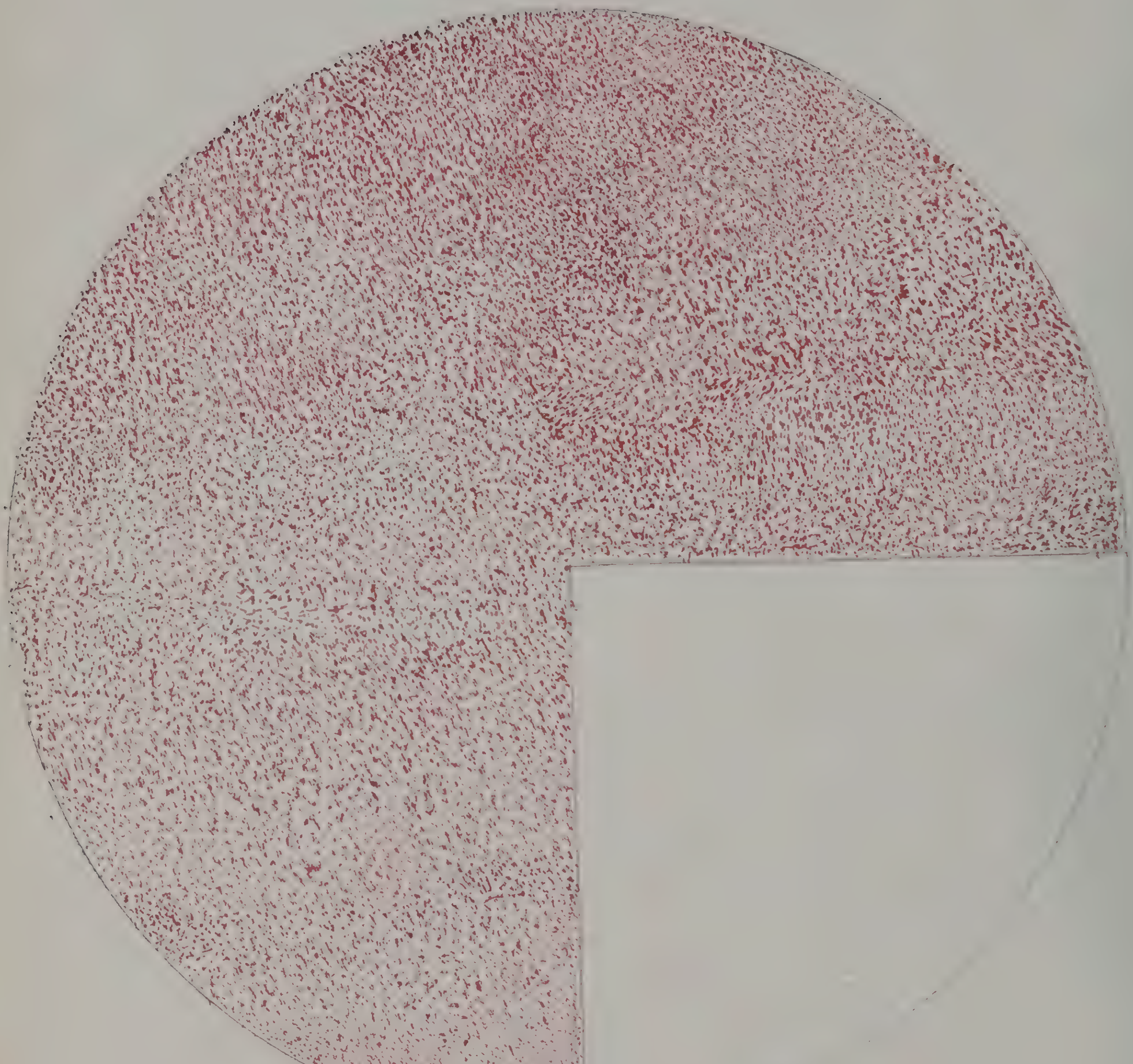
Three fourths of all the crime and even suicide is caused by the use of rum, and three fourths of the men that the police arrest, is caused by nothing but alcoholic drinks.

Some of the very best people get into bad society and learn these bad habits, and this destroys the senses. They cannot reason, and this very often leads them to murder their wife or child, and if they were in their right senses, they would show love and affection.

Alcoholic drinks also makes a person very selfish, for he will never wish to stay at home but go off to bars and spend all of his money for rum tobacco and gambling, and thus he causes suffering and poverty to

come over the family. As we might say to a liquor drinker,

"Now shall I a habit breaker
As you did that habit maker"



[illegible] of [illegible]

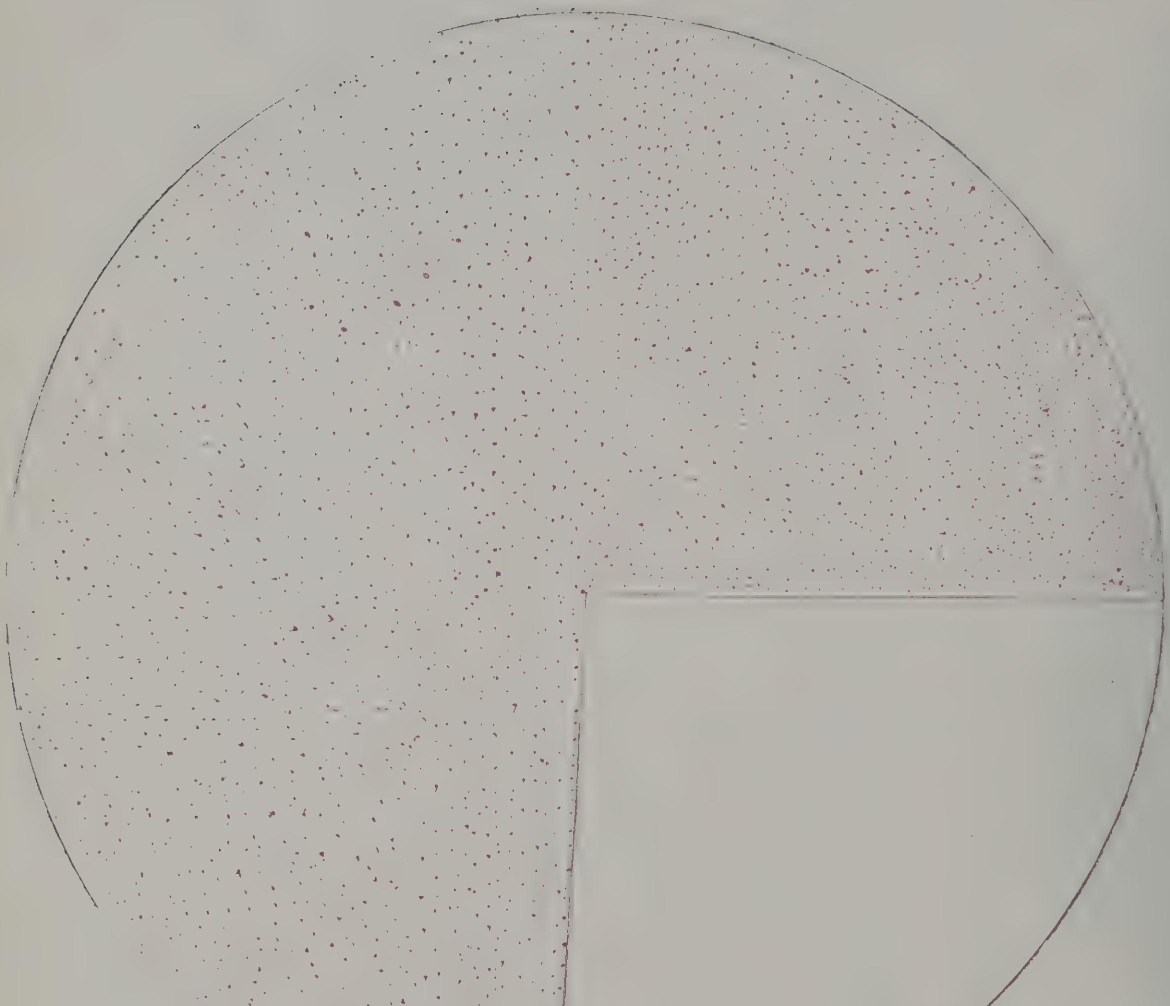
Three fourths of all the crime
[illegible] is raised [illegible]

When men are under the influence of liquor, they do not [illegible] raise [illegible] and do not know what they are doing.

They will even murder people and do not know what they are doing, while if they were sober they would not do it.

Three fourths of all the arrests made by the police are of persons who are under the influence of liquor.

Liquor destroys a man's affection. He will murder his family while under the influence of liquor, while if he was sober he would be as kind as any person.



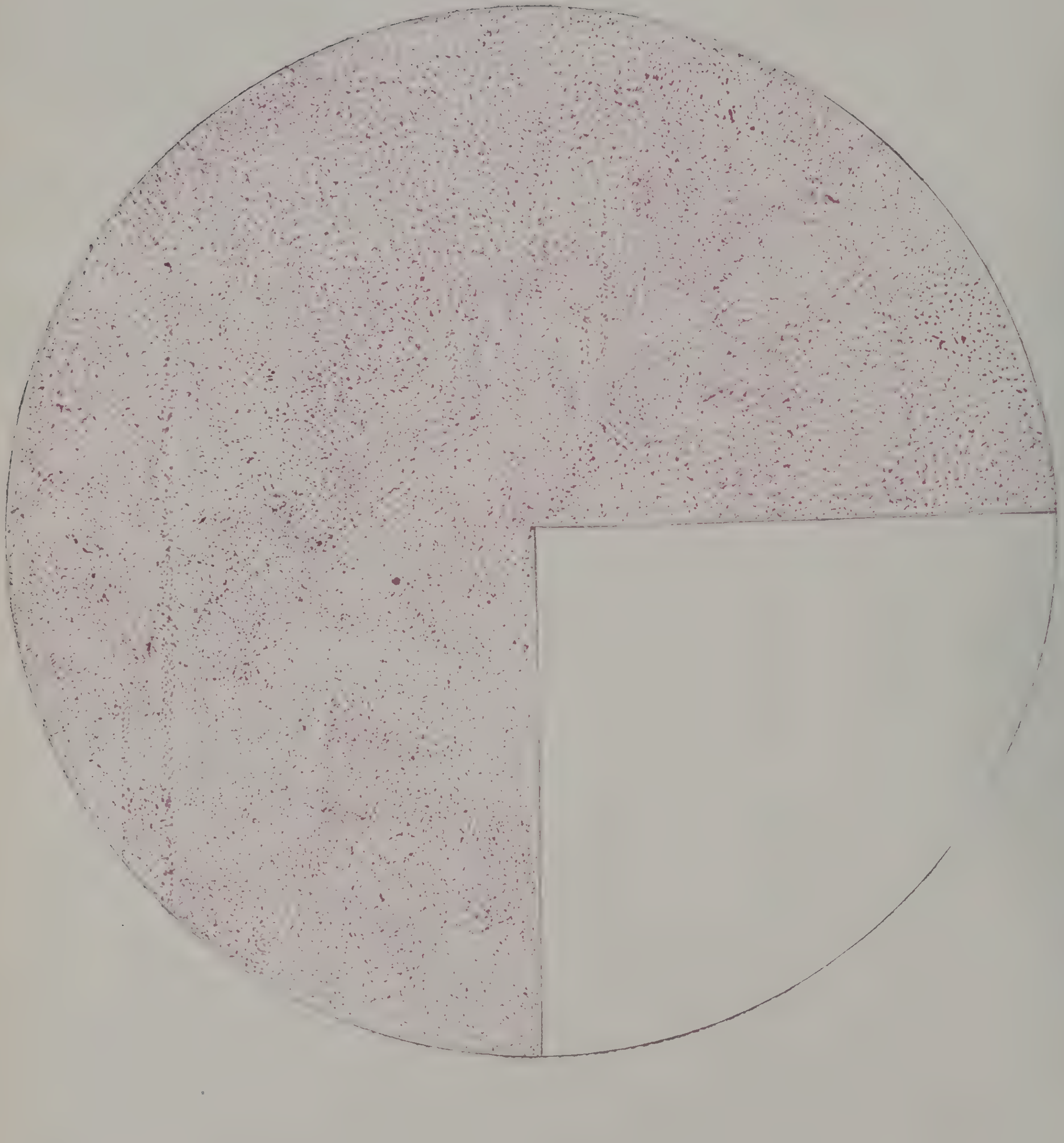
Explanation of Diagram

Three fourths of all the murders and vicious crimes that are committed are done when the criminals are under the influence of alcohol. And also three fourths of the arrests made by the police for disturbance on the streets are when people are intoxicated.

Alcohol destroys the senses and the reasoning power and man becomes as a brute. When this happens, they can not talk as they ought to.

Alcohol destroys natural affection. When a man is intoxicated, he will murder his wife and children, or perhaps injure them for life, when, if he was his right mind, he would love them.

When a person's mind and heart are destroyed he becomes selfish and peevish.



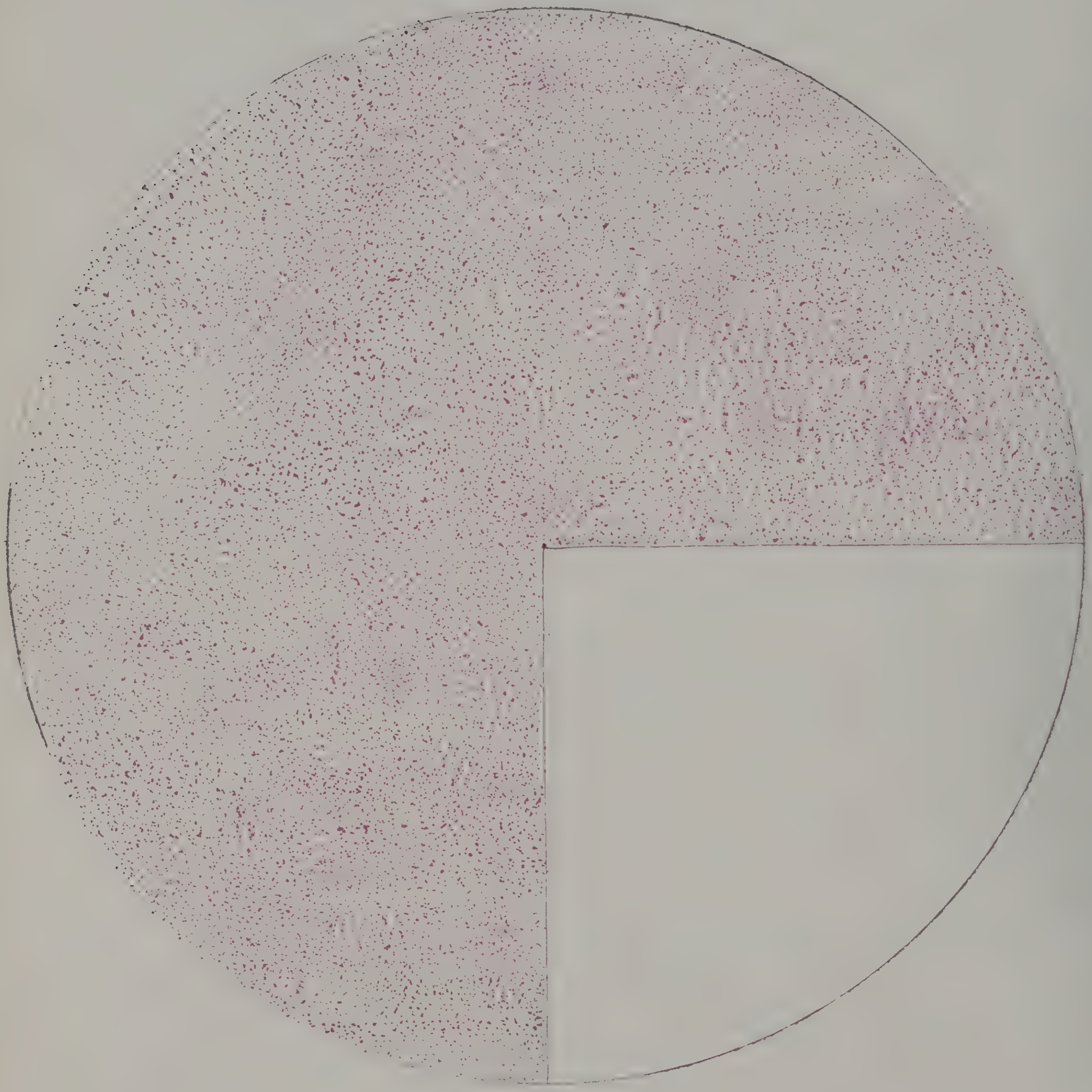
Description of Diagram.

If a person were to visit State's Prison or any other institution of that kind, and should ask the keeper about how many vicious crimes and murders were committed under the influence of alcoholic liquors, he would reply, "about three fourth's, or five seventh's.

About three fourth's of all the arrests, made by the police, for drunken brawls, fights etc are made of men and women under the influence of rum.

There are several reasons for this; first, alcohol steals the senses and destroys reason - people who take too much liquor do not have much reason - second, alcohol destroys affection; third, alcohol

makes a person self and brutal.



Description of Diagram.

[illegible]

[illegible]

A Description of Drunkenness

Most all the trouble comes as a miserable effect from the influence of liquor.

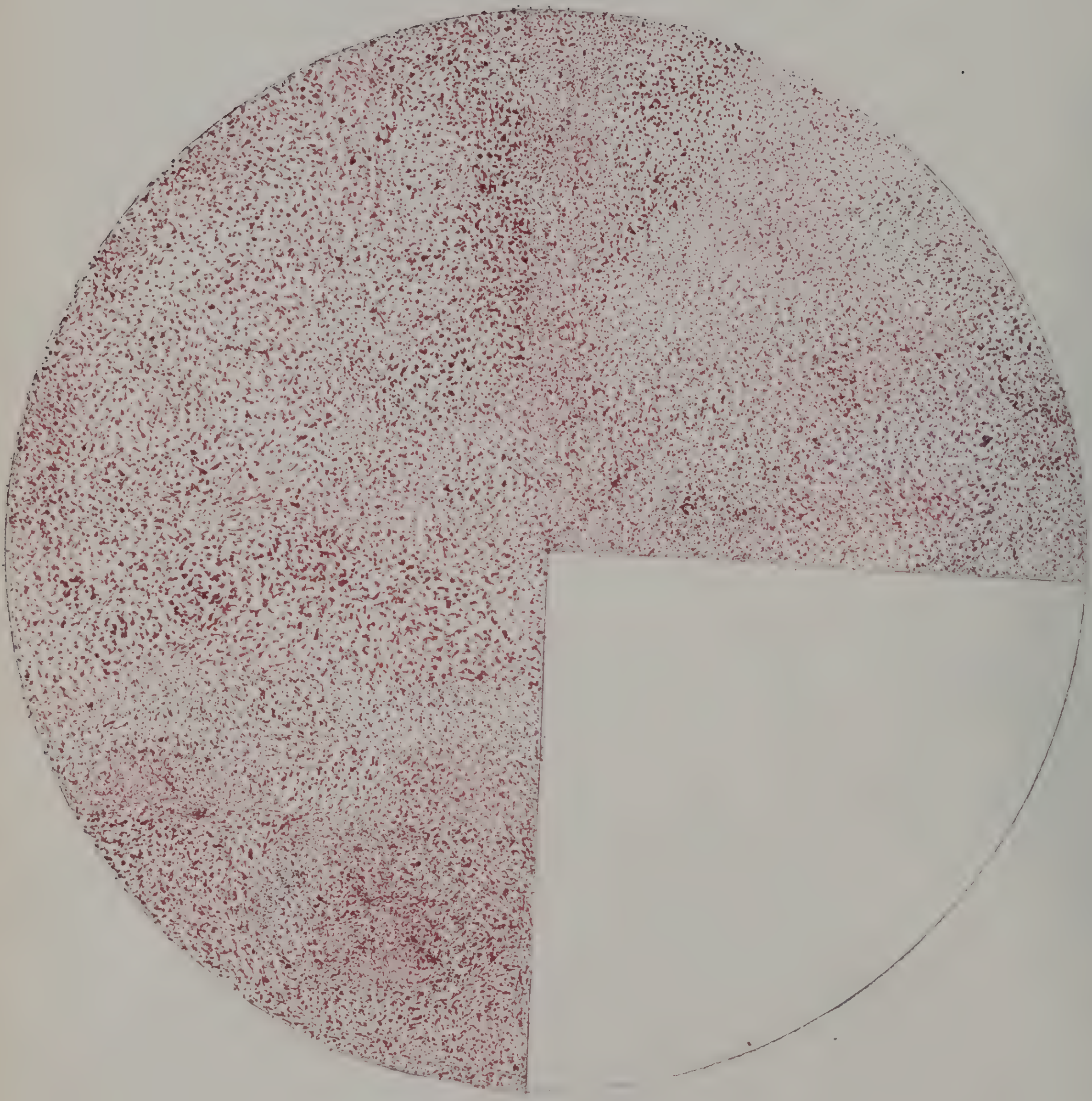
About three-fourths of the arrests made by the police are caused by liquor.

Alcohol stunts the senses and destroys all reasoning power. A person cannot reason with another person if he drinks, because his reasoning is gone from him.

A person really becomes a brute when he loses his reasoning power.

A man's affection is gone after he drinks liquor. He would just as soon kill his wife and children as to hand them [illegible]

A brute is selfish and a person that lets liquor rule him becomes selfish. All these things end in some terrible crimes.



[illegible]ion of Diagram

The [illegible]ths of all the [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] cannot [illegible]

[illegible]

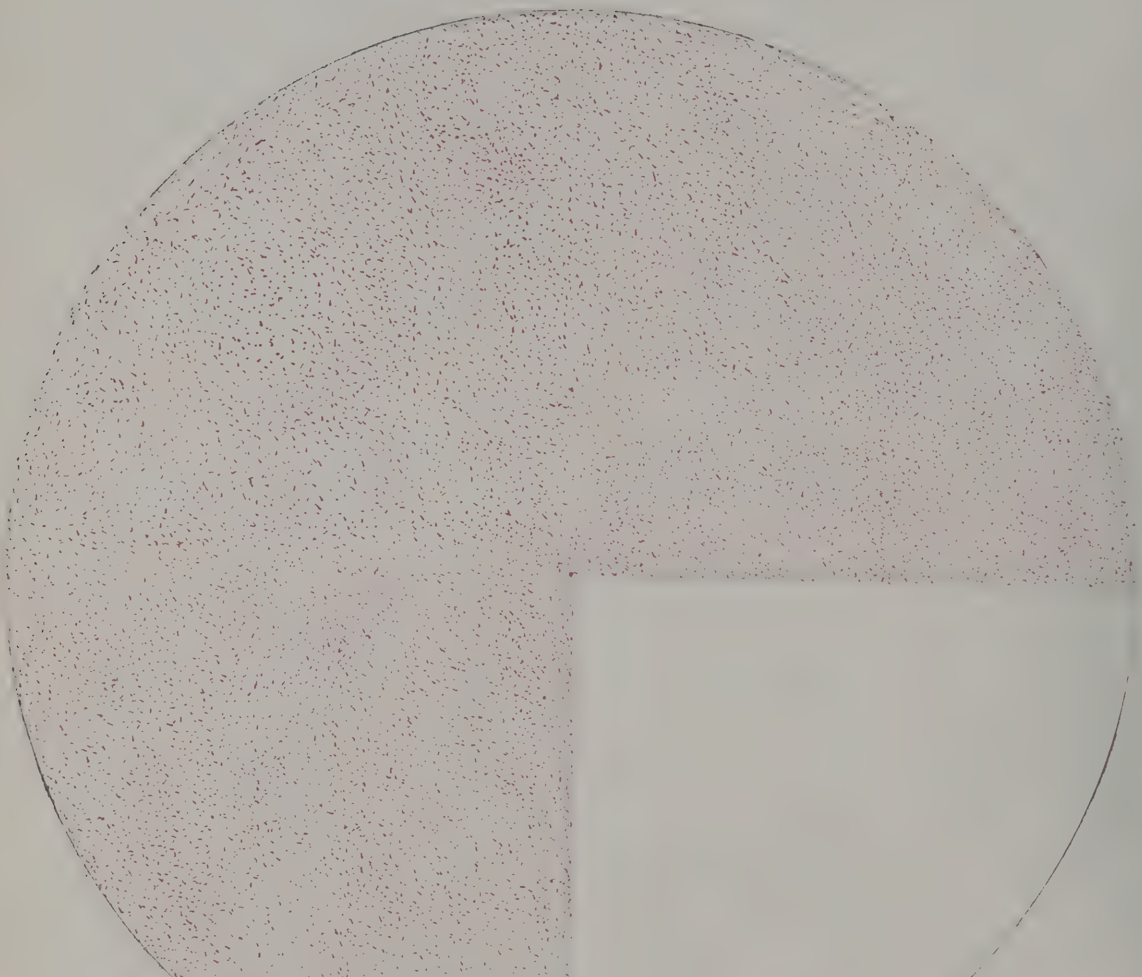
[illegible]

[illegible]

[illegible]

[illegible]

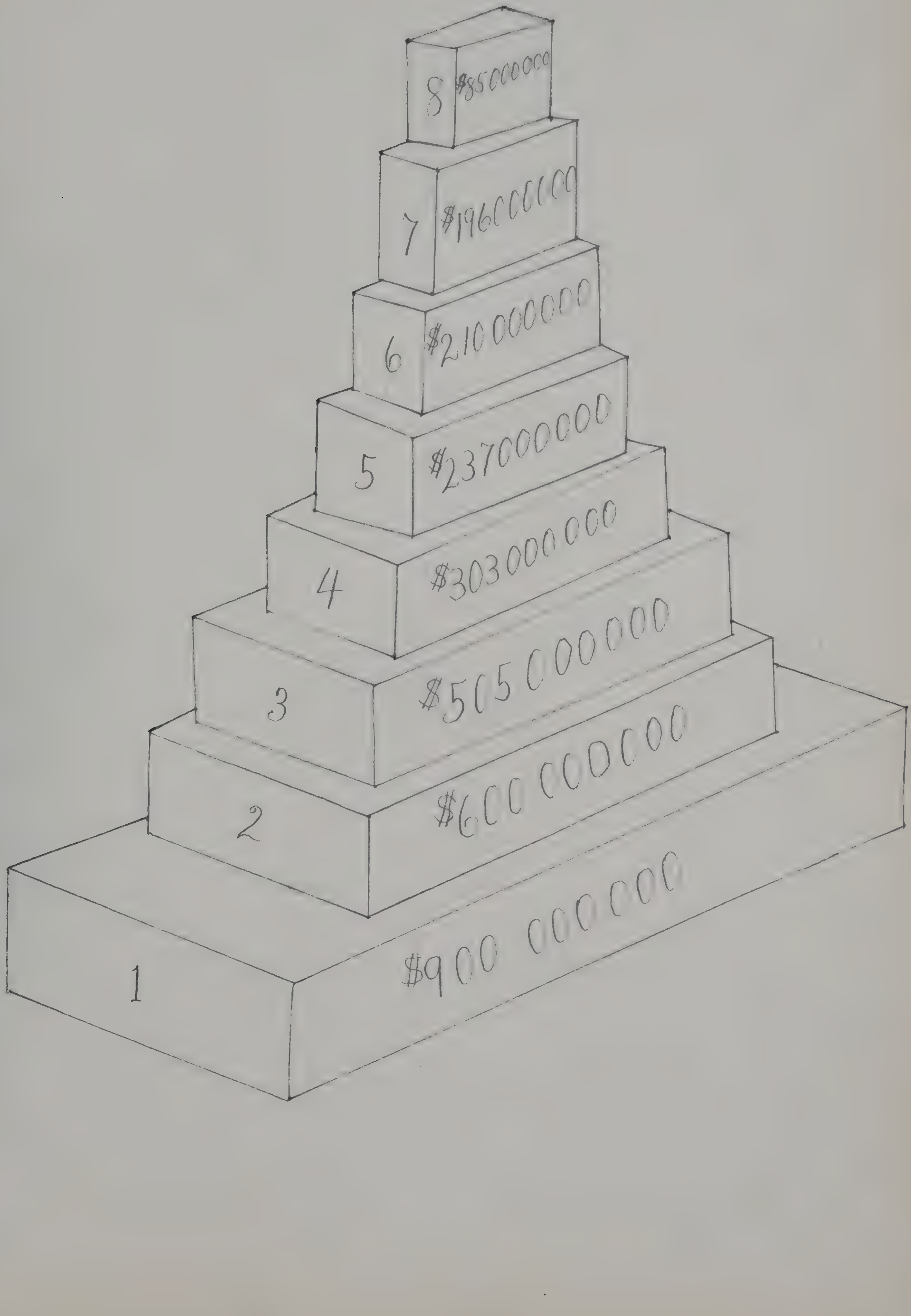
[illegible]

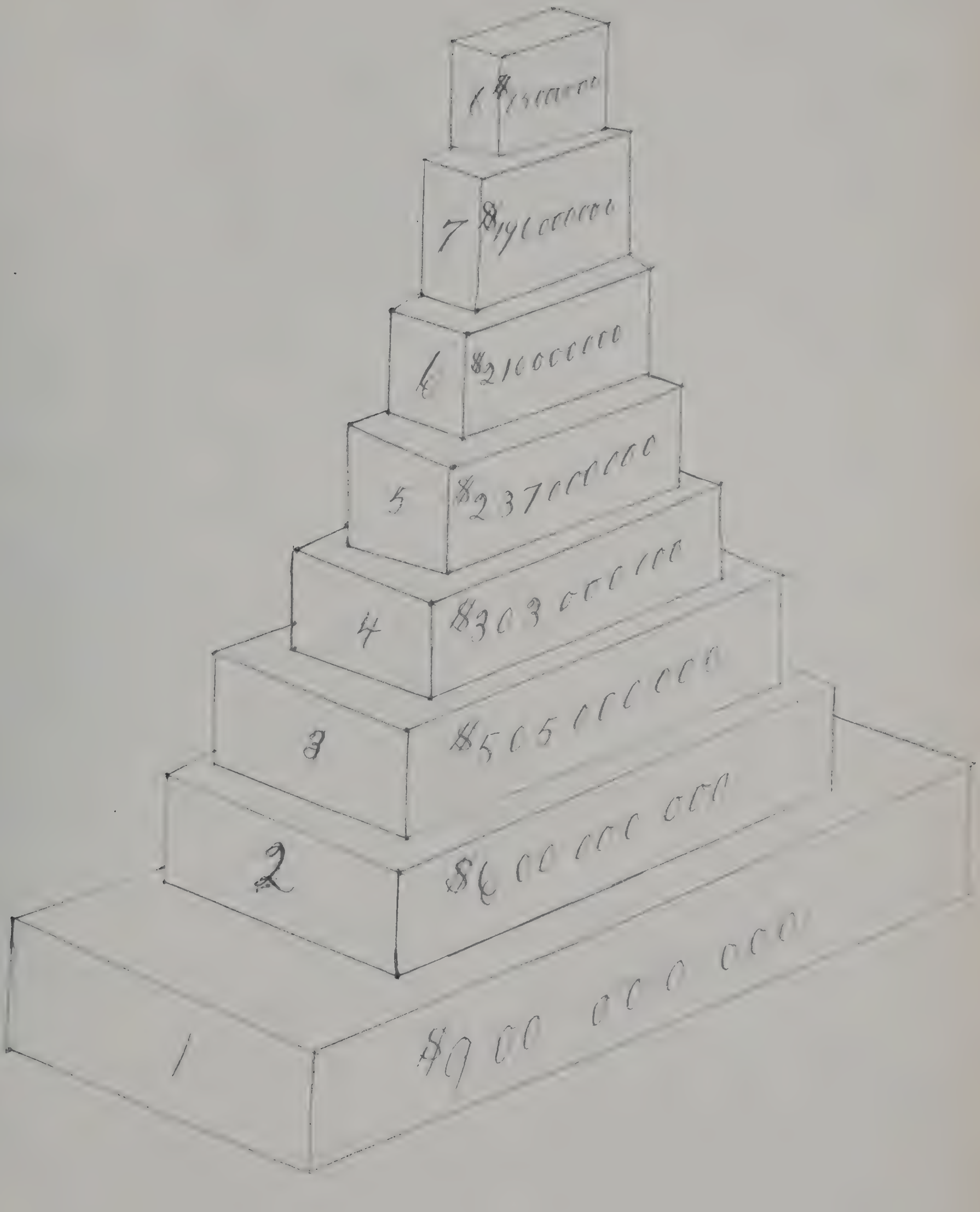


Description of Diagram.

About three fourths of the murders and poisonous crimes are committed by intoxicated men, and three fourths of the arrests made by the police for disturbances on the street, are caused by the use of alcoholic drinks

Alcohol destroys the senses and some of the murders are done by men who are in the state first mentioned. It also puts them on a level with brutes. One of the causes for their getting on the level with brutes, is because it destroys their affection, and after it is destroyed, they do not care what they do. It also makes them selfish, and there are many, many more things which it does


8 $85000000
7 $196000000
6 $210000000
5 $237000000
4 $303000000
3 $505000000
2 $600000000
1 $900000000


8 $150000000
7 $191000000
6 $210000000
5 $237000000
4 $303 000000
3 $505 000000
2 $600 000 000
1 $900 000 000

Explanation of Diagram.

The purpose of the diagram is to show the annual cost of the eight articles, liquor etc.

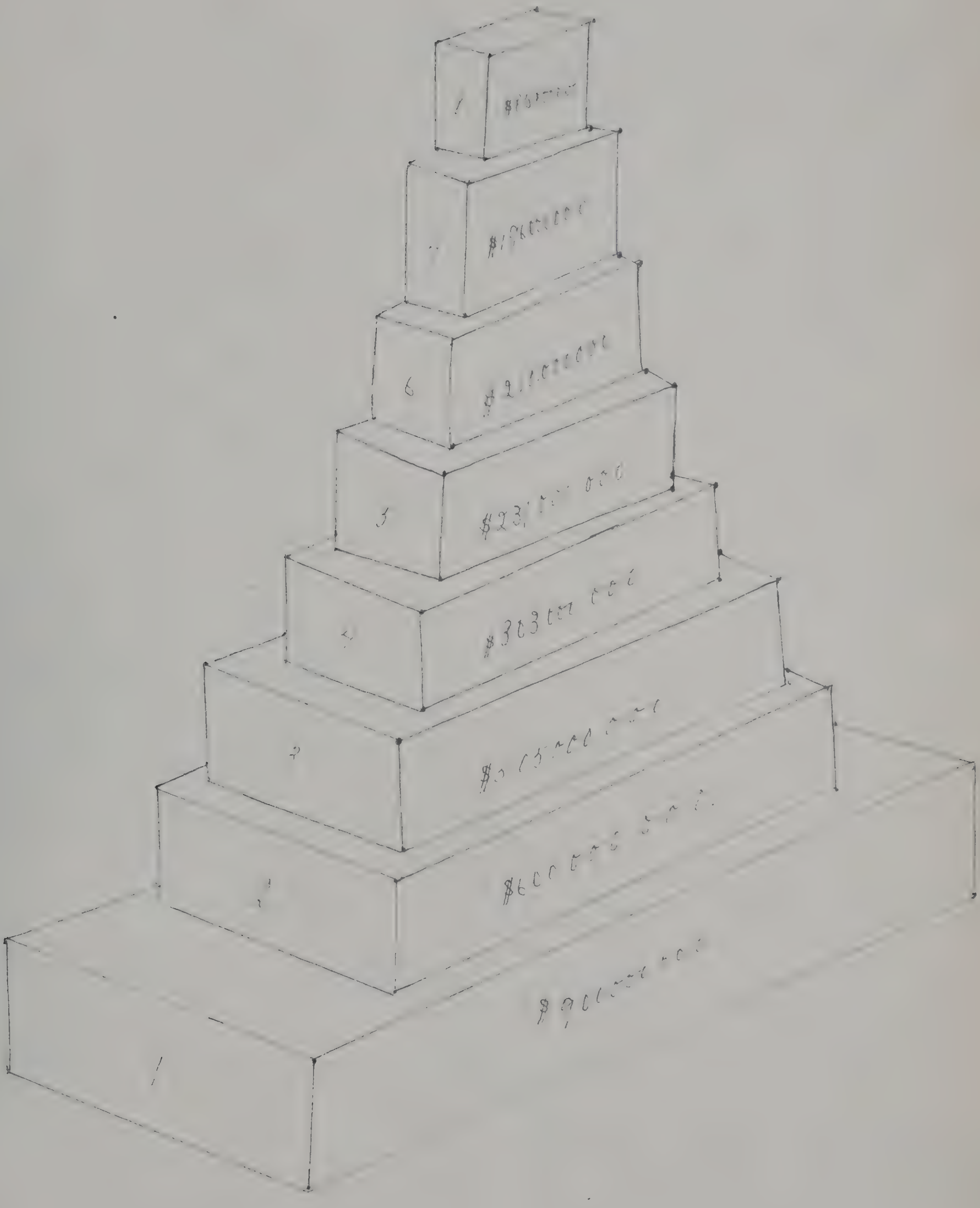
No(1) shows the cost for liquor; no(2) shows the cost for tobacco; no(3) for bread; no(4) for meat; no(5) for woolen goods; no for cotton goods; no(7 for boots and shoes; no(8) for education.

(6) The last six are the necessary, and the first two are the unnecessary articles.

There are thirty six million dollars more spent for necessaries than for tobacco and liquor annually.

The waste of this large amount of money is poverty and suffering

George Brawley



Explanation of Diagram

The purpose of the diagram is to show the amount of money spent, annually, in using eight articles; namely, liquor, tobacco, bread, meat, woolen goods, cotton goods, boots & shoes and education.

No(1), represents the amount of money spent for liquor; no(2), for tobacco; no(3) for bread; no(4), for meat, no(5) for woolen goods; no(6) for cotton goods; no(7) for boots & shoes; no(8) for education.

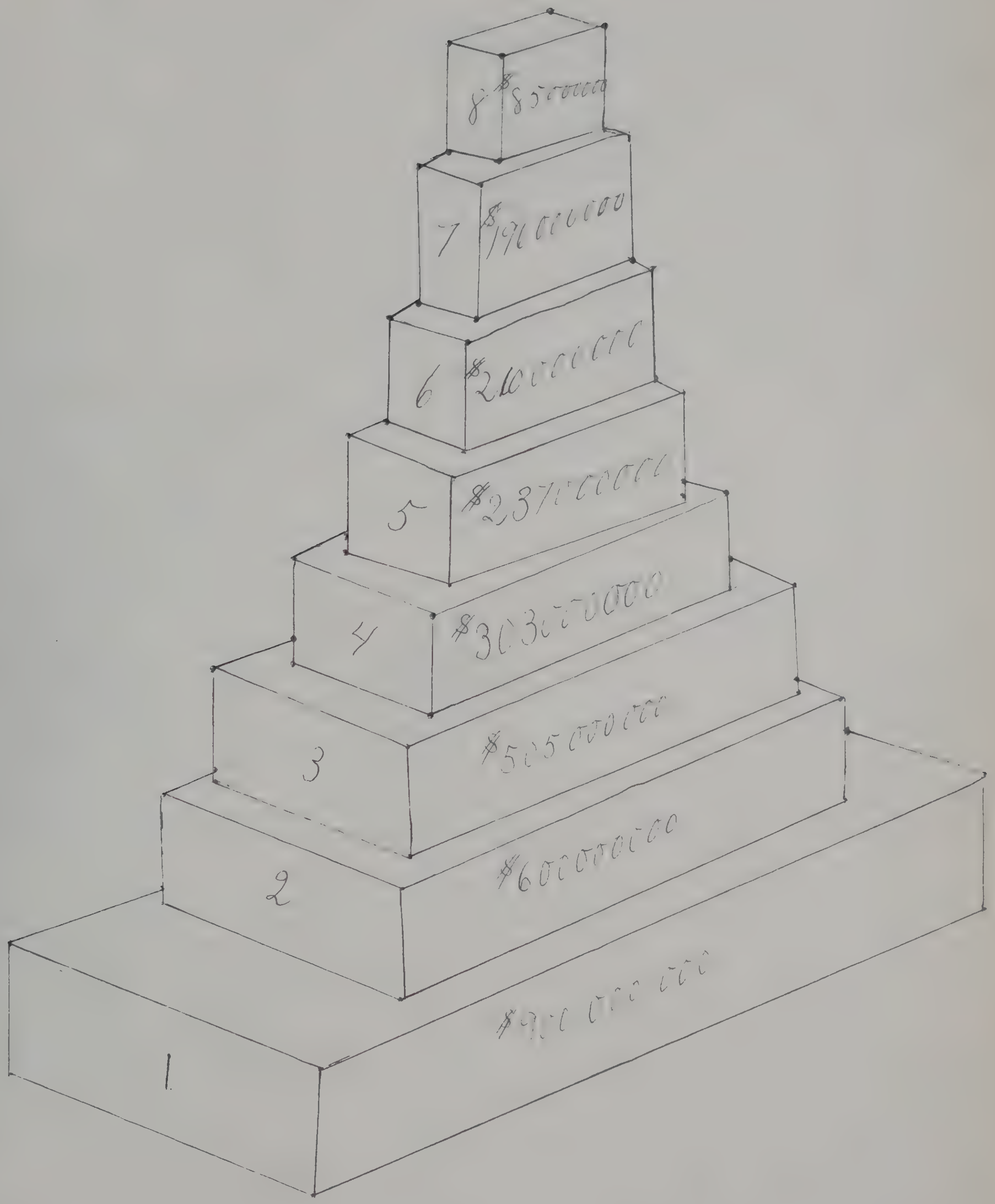
The articles we need and use the most are bread, meat, cotton and woolen goods, boots & shoes and education The articles we do not need are liquor and tobacco; yet, more money is spent

for tobacco and liquor than for bread and meat; the articles without which we cannot live.

The liquor and tobacco used is seventeen and one half times more than education. The whole of the necessities are only thirty six million dollars more than liquor and tobacco.

The waste of money for liquor and tobacco in the end causes poverty.

Sadie I. Holmes


8 $85000000
7 $190000000
6 $210000000
5 $237000000
4 $303000000
3 $505000000
2 $600000000
1 $900 000 000

Explanation of Diagram

The purpose of this is to give an idea of the money spent annually for the eight articles represented.

No (1) indicates the sum spent for liquor, no (2), for tobacco, no (3), for bread, no (4), for meat, no (5), for woolen goods, no (6), for cotton goods, no (7), for boots & shoes, no (8), for education.

The useful articles are three, four, five, six, seven and eight; the useless ones are one and two.

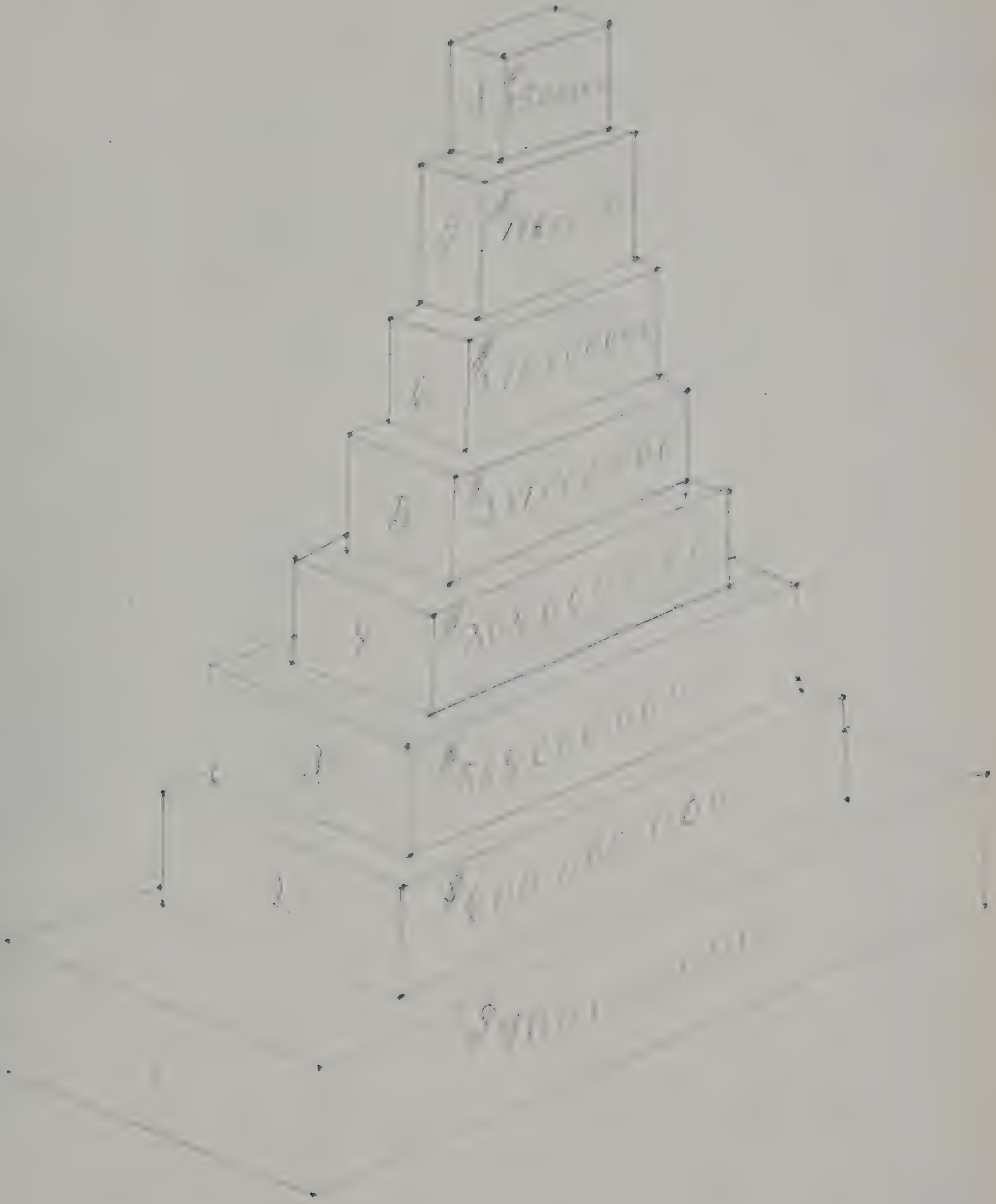
There is nearly as much money spent for one and two as there is for all the necessities.

There is about one thousand and four hundred million dollars spent for one and two; while there is only thirty six million dollars more spent for three, four, five six

seven and eight

There is about seventeen and a half times as much money spent for no. one and two which is unneedful as there are for no eight which is needful

Henry C Edwards



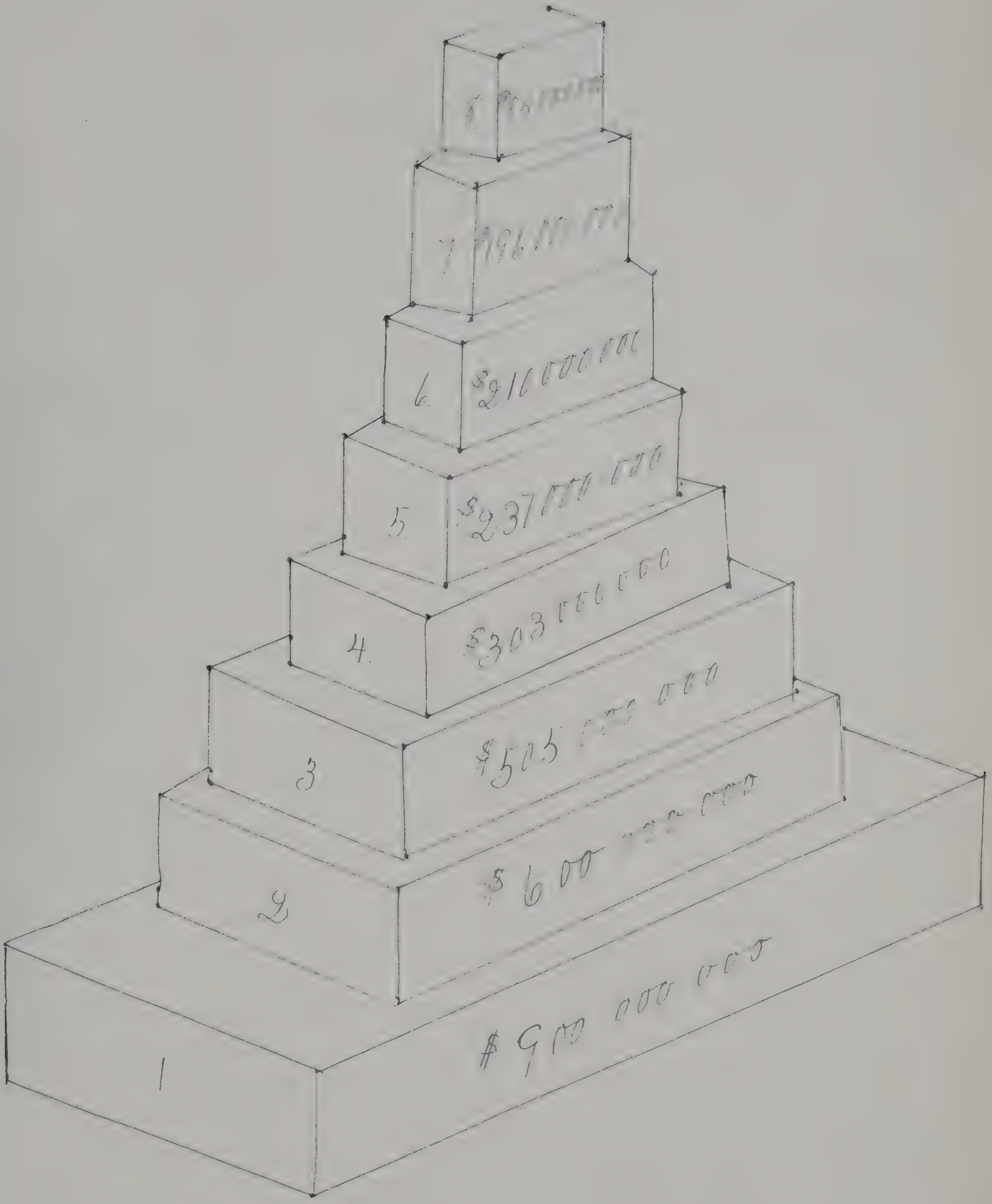
Explanation of Diagram

The purpose of this diagram is to show the amount spent for these eight articles annually. No.(1) indicates the cost for liquor; no.(2) for tobacco; no.(3) for bread; no.(4) for meat; no.(5) for woolen goods; no.(6) for cotton goods; no.(7) for boots & shoes, & no.(8) for education.

The numbers three, four, five, six, seven and eight are needful. Nos. one and two are useless. There are only thirty six million dollars more spent for the necessities than for tobacco and liquor.

There is seventeen and one half times as much spent for tobacco and liquor as there is spent for education. The result of this large waste of money is poverty.

Ellis Pearson


7
6
$21000000
5
$237000000
4
$303000000
3
$505 000 000
2
$600 000 000
1
$900 000 000

Explanation of Diagram

This diagram is to show how much more money is spent annually for liquors and tobacco than for things which are needful.

No (1), shows the amount spent for liquor; (2), for tobacco; (3), for bread; (4), for meat; (5), for woolen goods; (6), for cotton goods; (7), for books & thread; (8), for education.

The last six are needful and the first two, useless.

There is nearly as much spent for tobacco and liquor as for all the others taken together.

This great waste of money results in poverty, ruin, wretchedness and disgrace.

Emma R. Burgess

Explanation of Diagram

This diagram shows the money spent annually for the eight most important articles.

No. (1) represents the cost of liquors; no. (2), for tobacco; no. (3), for bread; no. (4), for meat; no. (5), for woolen goods; no. (6), for cotton goods; no. (7), for boots & shoes; and no. (8), for education.

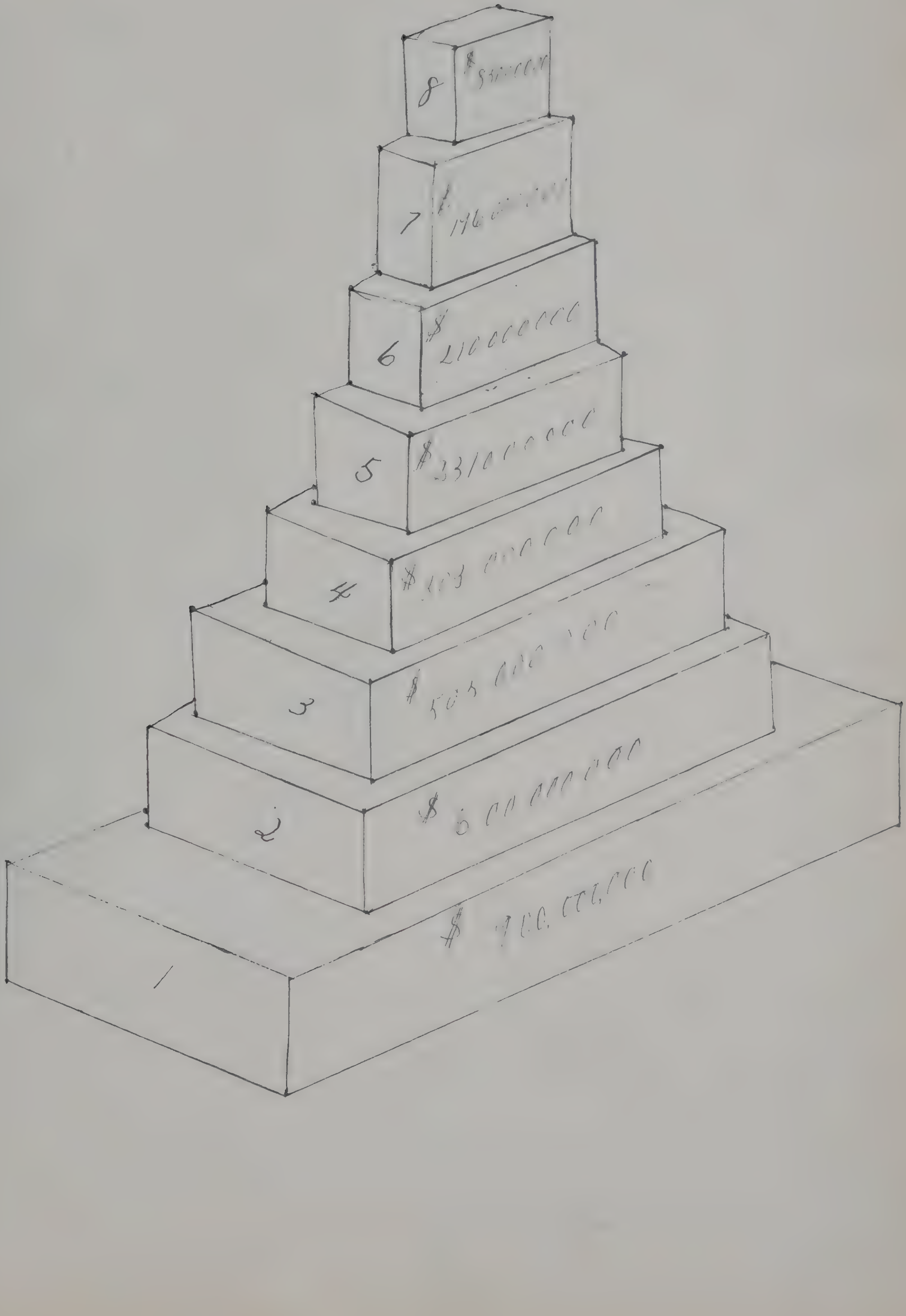
Those that are useful are; no's three, four, five, six, seven and eight. Those that are not useful are, no's one and two.

The money spent for the six useful things amount to one thousand five hundred thirty six million and the money spent for the things that are not useful amount to one thousand one hundred million dollars, so the useful things cost only thirty

on matters more than the things that are not taught. There is nearly ten and one half times as much money spent for liquors used to drink as for education.

The results of this large waste of money are poverty and sickness.

Alice L. Cooper.


8
$5000000
7
$196000000
6
$210000000
5
$331000000
4
$303 000000
3
$505 000 000
2
$600000000
1
$900,000,000

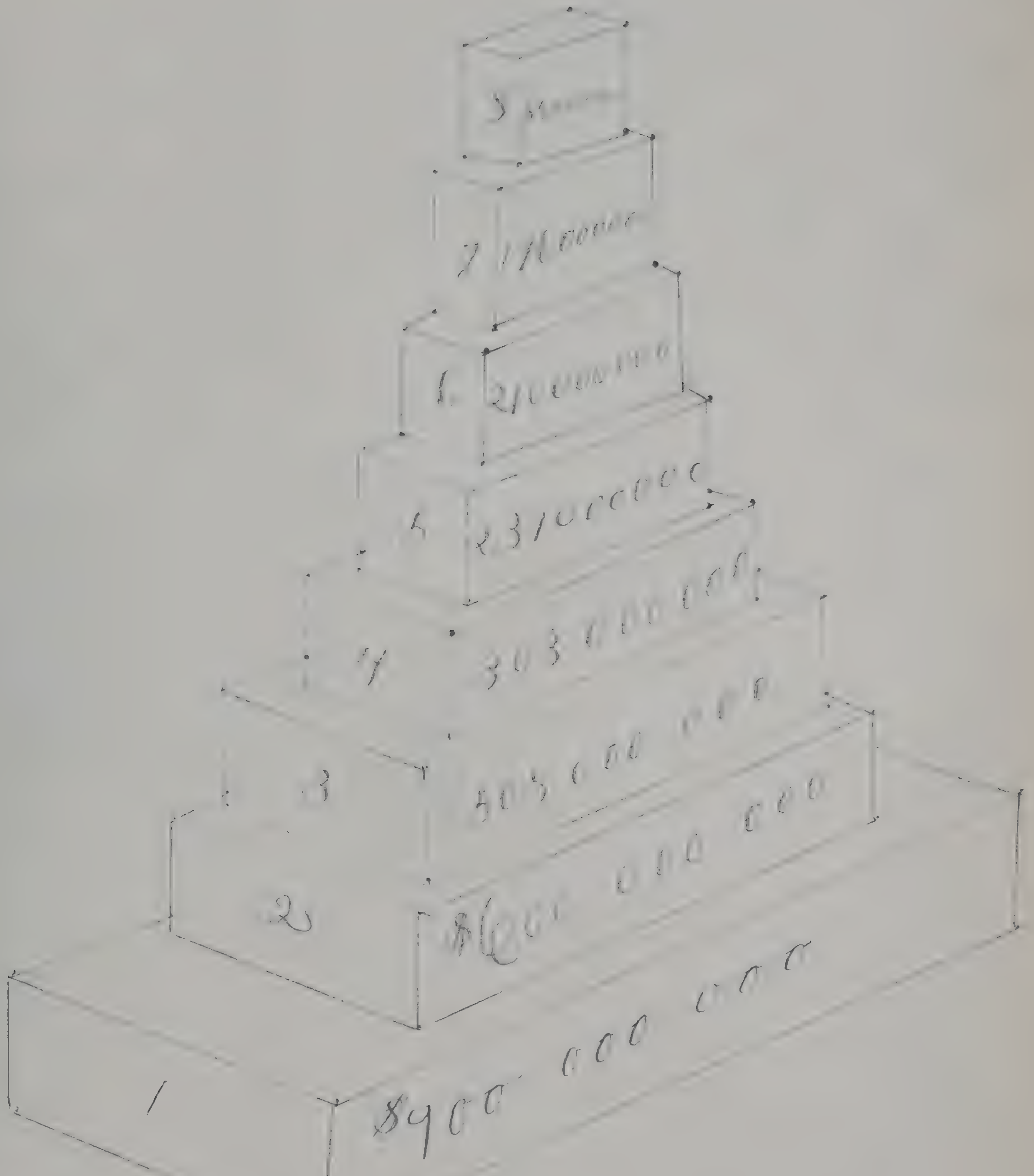
Explanation of Diagram.

The purpose of this diagram is to show the cost of useful and useless things.

No.(1) shows the cost of liquor. no.(2) shows the cost of tobacco. no (3) shows the cost of bread. no (4) shows the cost of meat. no (5) shows the cost of woolen goods. no(6) shows the cost of cotton goods. no(7) shows the cost of boots and shoes. no, 8 shows the cost of education.

Out of these, there are seven that are needful; the outher two are useless. There is seventeen and one half times as much money paid for liquor and tobacco as there is for education. The result of this large waste of money is poverty.

Nellie Sanborn.


3
7 1100000
6 21000000
5 231000000
4 303 000 000
3 505 000 000
2 $600 000 000
1 $900 000 000

Explanation of Diagram.

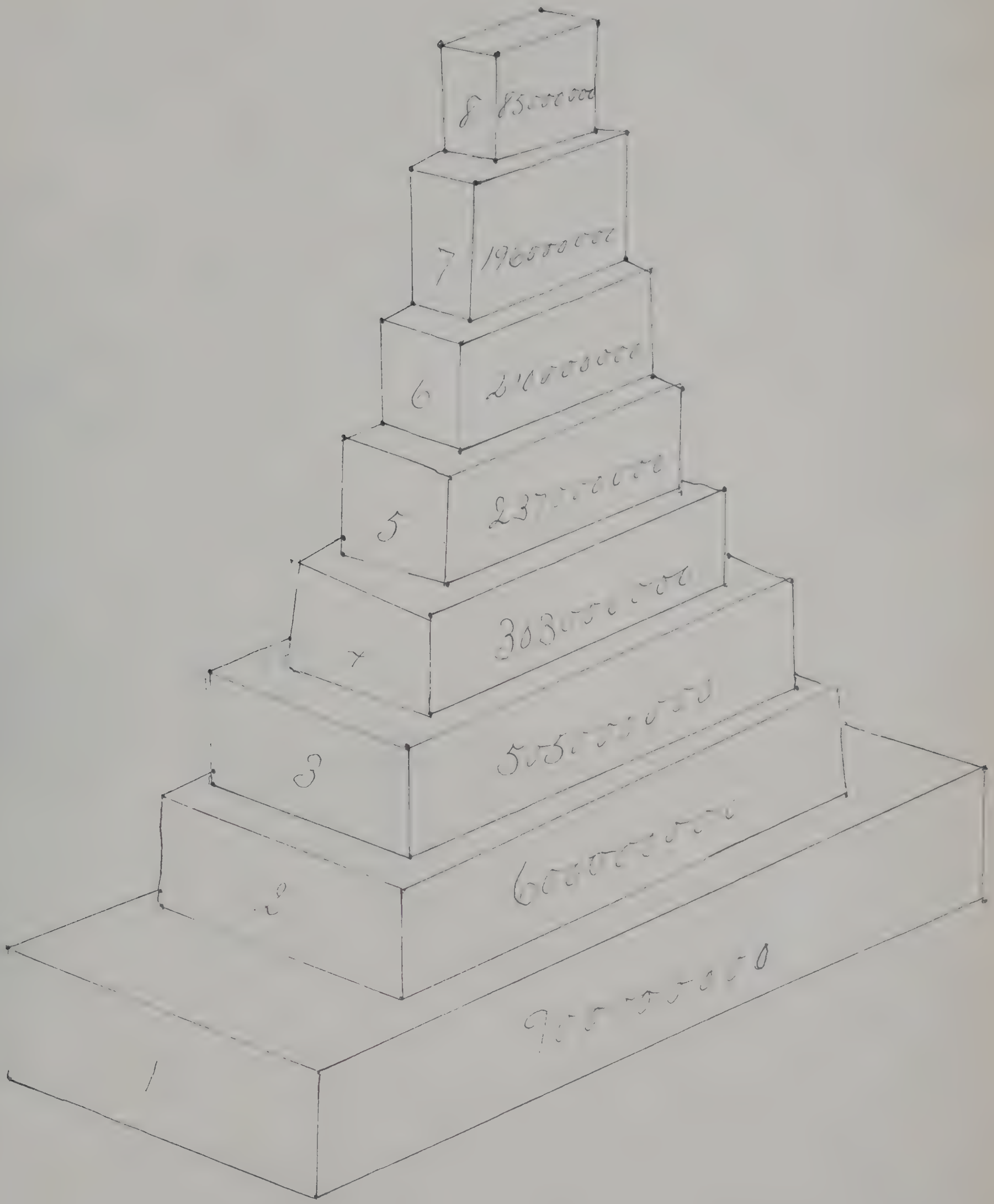
The purpose of this diagram is to state the cost annually of the six needful articles and the two useless which are as follows; No.(1.) liquor, no(2) tobacco, no(3) bread, no(4) meat, no(5) woolen goods, no(6) cotton goods, no(7) boots and shoes, no(8) education.

Liquor and tobacco are generally classed as useless articles, while the other six are very needful.

There is about thirty six million dollars more spent for the six needful articles than the two useless ones. People think there is a great deal of money spent for education in the U S annually, but there is about seventeen and one half times as much money spent for liquor and tobacco.

The result of this large waste of money upon liquor and tobacco, is that men become very poor, and they and their families suffer a great deal, by the men committing great crimes and being sent to prison for life, or for only a short time.

Kitty B. Childs.


8
85000000
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19600000
6
21000000
5
23700000
4
30300000
3
50500000
2
60000000
1
90000000

Explanation of Diagram.

The purpose of the diagram is to show how much we spend annually on the eight articles.

The facts indicated are: No (1). represents the money spent for liquor; no (2), for tobacco; no (3), for bread; no (4), for meat; no (5), for woolen goods; no (6) for cotton goods; no (7), for boots and shoes, and no (8), for education.

The needful (necessities) are bread, meat, woolen goods, cotton goods, boots and shoes, and education. The useless ones are liquor and tobacco.

The cost of tobacco and liquor is thirty six

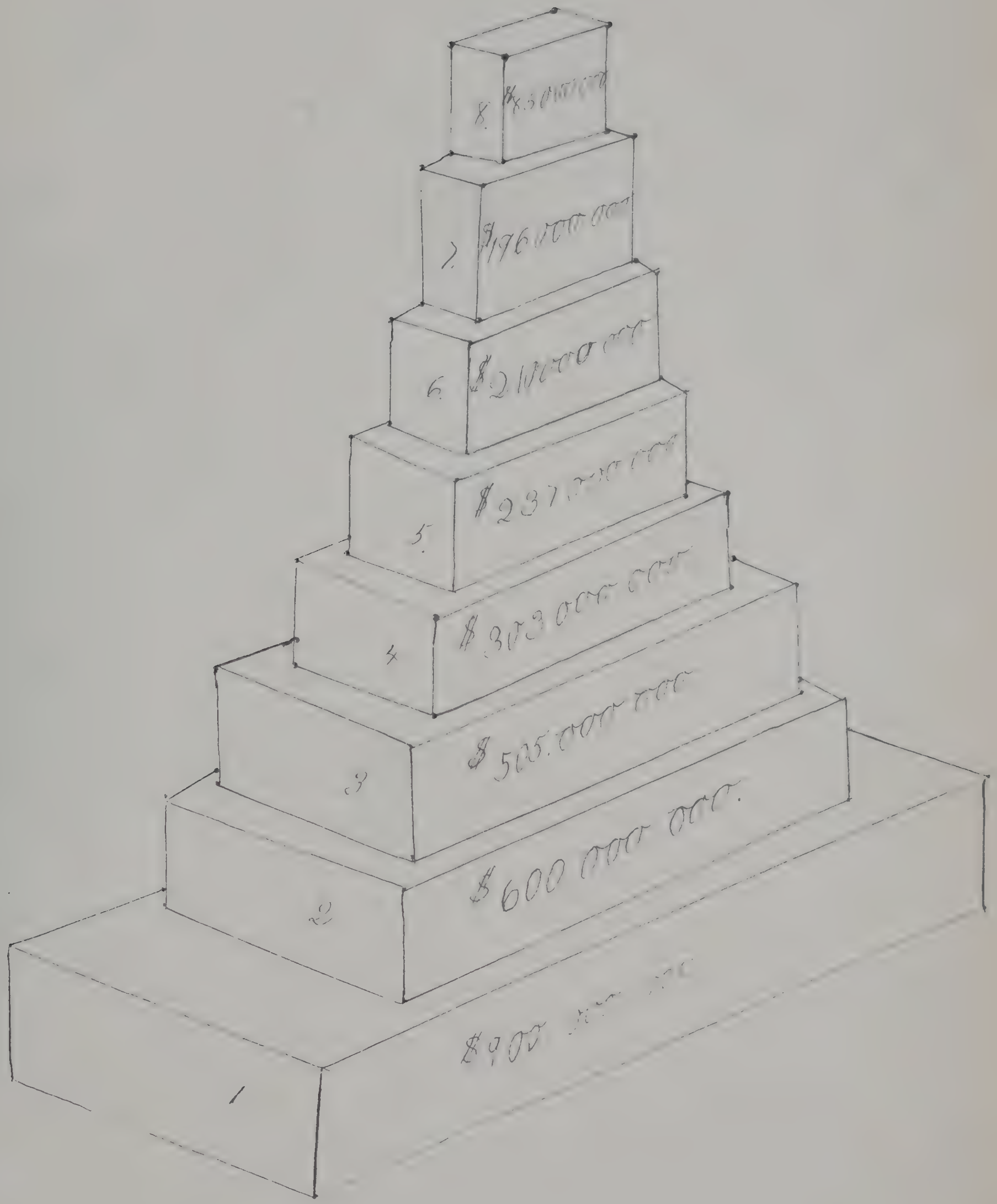
[illegible]

[illegible]

The [illegible] of these [illegible]

[illegible]

[illegible]


8. $8.500000
7. $176 000 000
6. $210 000 000
5. $237 000 000
4. $303 000 000
3. $505 000 000
2. $600 000 000.
1. $900 000 000

Explanation of Diagram.

The diagram is to show how much more money is spent for useless articles than for useful articles.

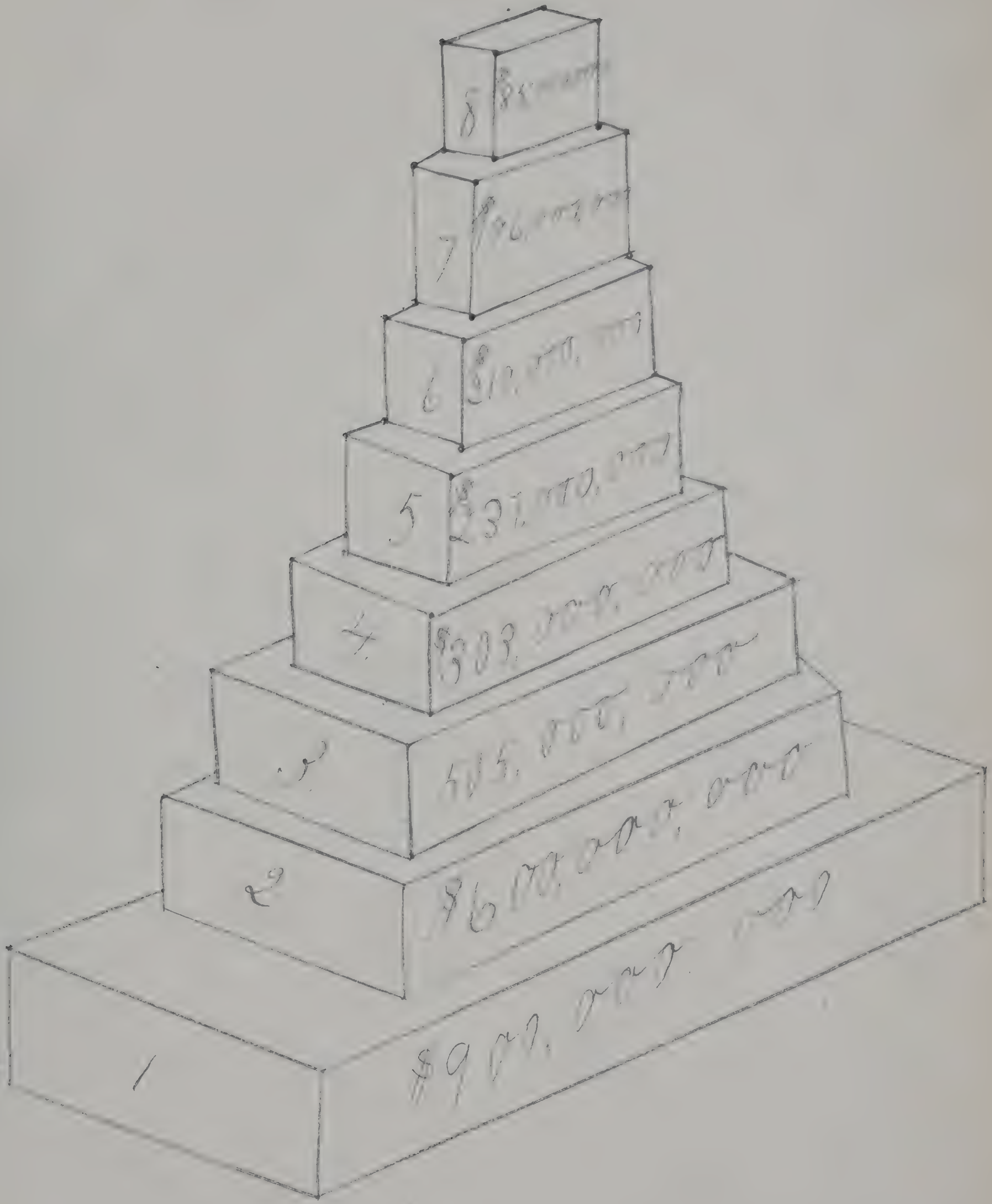
No. (1) represents the amount spent for liquor; no. (2), for tobacco; no. (3), for bread; no. (4), for meat; no. (5), for woolen goods; no. (6) for cotton goods; no. (7), for boots & shoes; no. (8) for education.

The needful articles are bread, meat, woolen goods, cotton goods, boots & shoes and education. Those that are useless are liquor and tobacco.

More money is spent for liquor and tobacco than for any of the other six articles. There is about ten times as much money used for liquor as for education.

This waste of money results in poverty and death.

Mabel Johnson


8 $[illegible]
7 $96,000,000
6 $12,000,000
5 $231,000,000
4 $303,000,000
3 515,000,000
2 $600,000,000
1 $900,000,000

Explanation of the figures

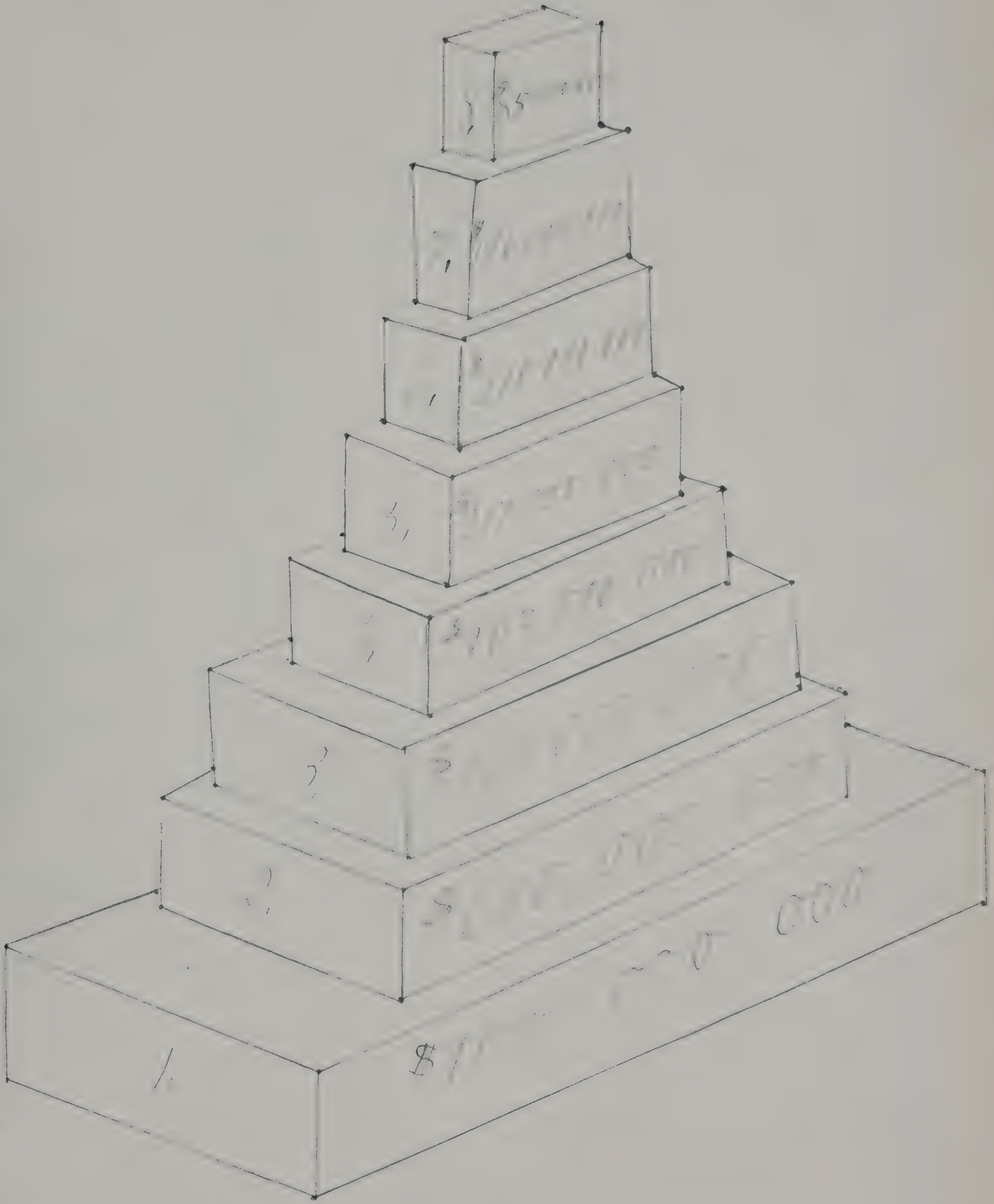
The purpose of this drawing is to show you how much money is spent every year for the useful articles mentioned.

No. (1) refers to the amount of money spent annually for liquor; no. (2) for tobacco; no. (3) for bread; no. (4) for meat; no. (5) for woolen goods; no. (6) for cotton goods; no. (7) for boots and shoes; and no. (8) for education.

The large round figures are not useful, but the others are.

There are only thirty seven million of dollars more spent for the eight useful articles than for the two useless ones, being one billion five hundred and thirty seven million dollars spent for the useful articles while for liquor and tobacco there is spent one billion five hundred dollars; there is seventy and a half times as much as is spent for education.

Kenneth Archibald


$5
4,
1.
$1
000

Explanation of Diagram.

The purpose of the diagram is to show the amount of money that is spent annually in the U. S. for the eight articles represented by one, two, three, four, five, six, seven, eight.

Number (1) indicates the money spent for liquor; number (2), for tobacco; number (3), for bread; number (4), for meat; number (5), for woolen goods; number (6), for cotton goods; number (7), for boots and shoes; number (8) for education.

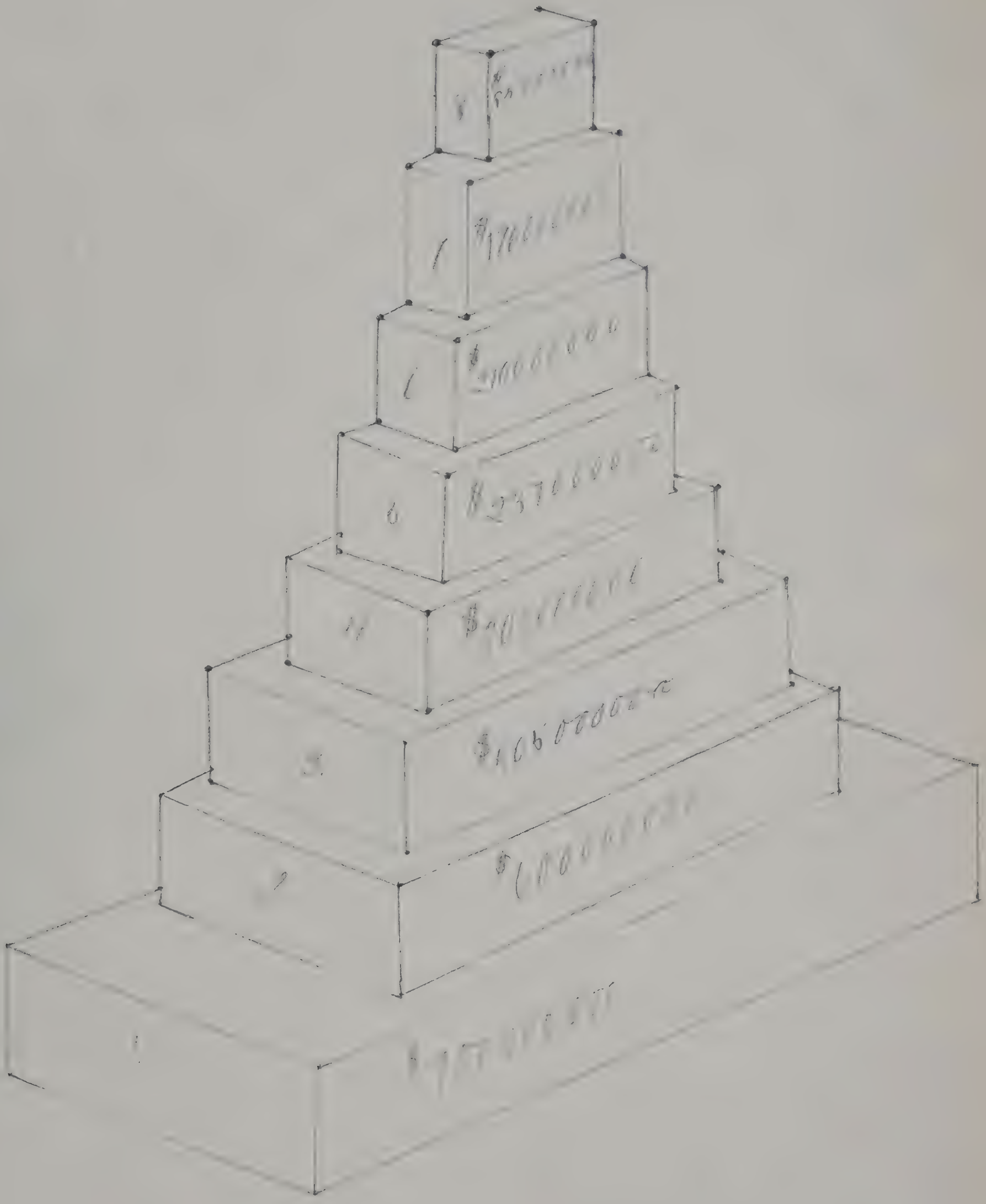
Numbers three, four, five, six, seven, eight are useful and numbers one and two are useless.

The cost of the useless articles is one billion, five hundred million dollars, and the cost

of the monster is one billion five hundred thirty two million dollars; the cost of the monster being only thirty two million dollars more than the useless article.

The result of this large waste of money is poverty in its worst form.

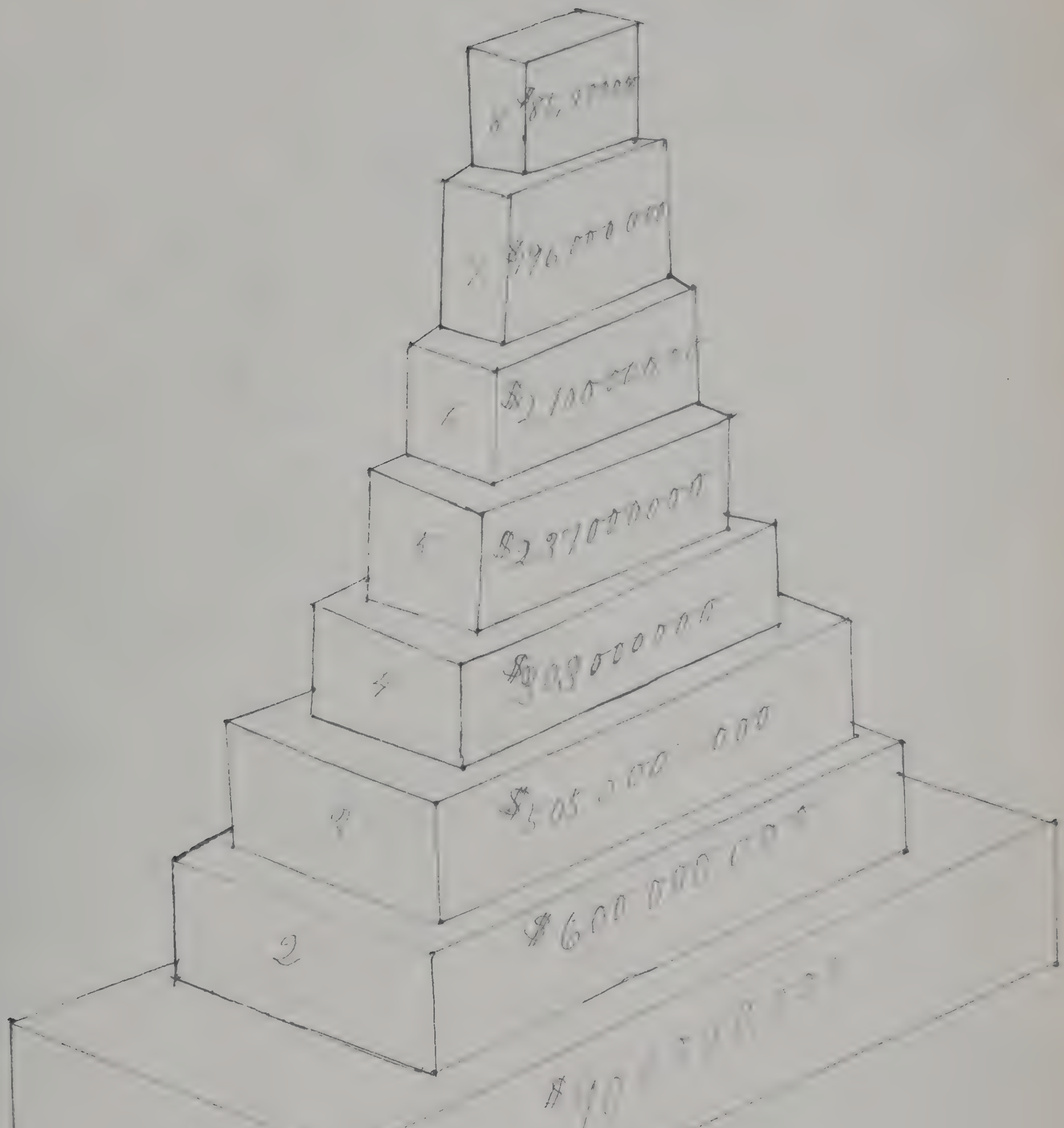
Adeline C. Morgan.

8
$500000
7
$1700000
$2000000
6
$2370000
$900000
5
$10600000
2
$1800000
1
$1750000

[illegible]

[illegible] from [illegible]; (4) [illegible] (5) [illegible] goods; (6), cotton goods; (7), boots & shoes (8) education.

[illegible]

$96 000 000
$2 370 000 000
$303 000 000
$505 000 000
$600 000 000

Explanation of Diagram

The purpose of this diagram is to indicate the sums of money expended annually on the eight articles indicated by one two three four, five six seven, eight.

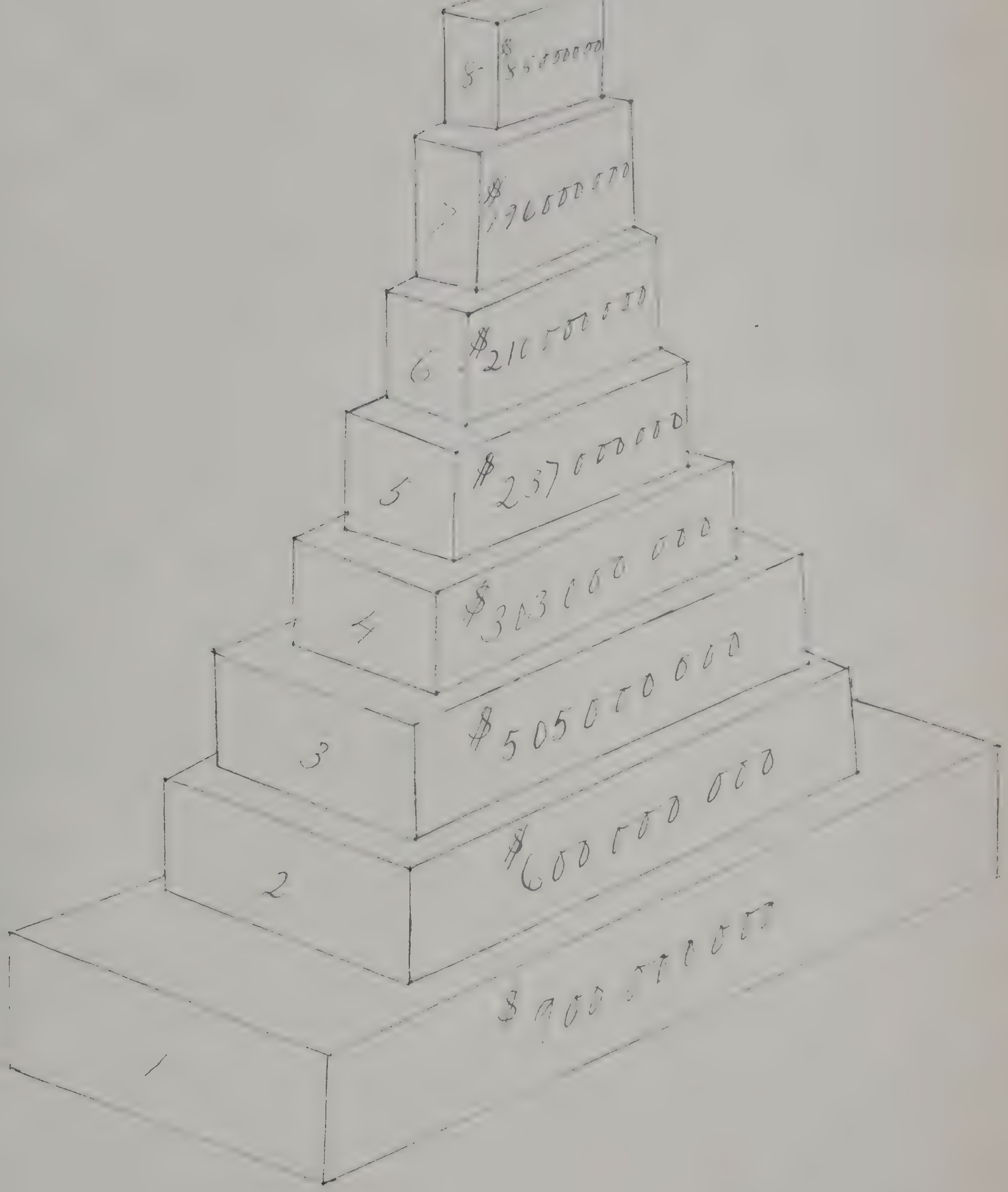
The dollars represented are of four figures (4) [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible].

The smallest one is one, two, four, five etc. The [illegible] [illegible] [illegible].

There are [illegible] [illegible] millions of dollars spent for [illegible] [illegible] [illegible] for liquor & tobacco, and [illegible] one half times more money is spent for liquor & tobacco than for education.

The [illegible] [illegible] [illegible] by.

[illegible]


8
$85000000
7
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6
$210000000
5
$237000000
4
$303000000
3
$505000000
2
$600000000
1
$900000000

[illegible]

[illegible]

[illegible]

ey spent on useless articles.

Key shows the amount spent for liquor; (2) for tobacco; (3) for beads;

(5) for woolen goods; (6) for

[illegible]

[illegible]

times as much money spent for liquor as for education.

[illegible]

Hommage amical

Ch. Henry